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NEWS SUMMARY

NERAL

Youth shot in Madrid protest

outh was shot and killed in centre of Madrid yesterday ng two hours of running les between riot police and onstrators calling for the ase of all political prisoners. olice fired dozens of smoke nades and teargas canisters bid to disperse the demon- tors. Some replied with es and cars were dragged ss the streets. A pall of ke hung over the centre of city.

ye-witnesses reported seeing bers of the extreme Right- g faction, the Guerillas of st the King, lashing out at onstrators. The Civil Gov- r of Madrid said two middle- l men were being sought r the killing and police had tified the group to which belonged. Back Page

ng may come ck to power

g Hsiao-ping is expected to rn to power as First Vice- rman of the Chinese Com- ist Party, second only to rman Hua Kuo-feng in the archy. Teng was stripped of his posts last April, but for past two weeks the walls of ng have been spattered with ro-Teng poster campaign owing the disgrace of the party "Gang of Four." Page

e kills vicar

Rev. James Sinton, vicar of John's, Longton, Stoke-on- t, died in a fire at his ter's home at Seahouses, Berwick. In Liverpool, a ear-old boy died and his six- old sister was in intensive after they and three other hren were snatched from a e at their home.

el grave raided

-blood sports demonstrators being sought by police after grave of John Peel (1776-), the huntsman immortalised ong, was ransacked at Cald- , Cumbria.

HS attacked

National Health Service, ructured in 1974, is "bureau- c, over-elaborate and cum- ome," McKinsey, the manage- t consultants, told the Royal mission on the NHS.

IC weapons

Royal Ulster Constabulary is ced to face renewed contro- y about its security role in itive Catholic areas follow- the decision by the Chief stable to replace his force's loading and .303 rifles with ern U.S. carbines.

me . . .

car passengers were killed seven people injured when ar and an ambulance were lved in a crash at Hilling- West London.

der incident increased hinic Wigan's lead in the ting Life naps table on rday. His National Hunt it so far this season is £15,02 a daily £1 stake. Racing, 2

field: Labour has chosen Mr. hael Cowan, chairman of s, finance committee, as its lamentary candidate to re- e Mr. David Marquand, who tomin gthe EEC.

ensation photograph of the en and Prince Philip by l Snowdon will be shown at National Portrait Gallery to k the Silver Jubilee.

and abroad

let Union's population on uary 1 was 257.9m., an in- se of 2.4m. over the year.

es Hunt finished second in Brazilian Grand Prix to los Reutemann. Page 20

on wine producers have pointed Presidents Jimmy ter and Valery Giscard staing Commanders of the therhood of St. Vincent.

BUSINESS

Drax £100m. order to go ahead

● **INQUIRY** has been set up by the Central Electricity Generating Board into the breakdown of one of Britain's most advanced coal-fired stations at Drax, near Selby, Yorks.

The breakdown, which will cost more than £5m., is not expected to prevent the Board ordering a second stage for Drax to almost the same design at a cost of £100m. Back Page

● **KNITTING** machinery manufacturer is to close its factory with a loss of between 380 and 390 jobs. Wildt Mellor Bromley, part of Bentley Engineering Group, decided to close its factory at Aylestone Road, Leicester, and will consolidate operations at the more modern plant at St. Saviours Road.

At the root of the setback is a fall in orders throughout the world for double jersey circular machines. Page 8

● **BIG** clearing banks are expected to reduce the cost of overdrafts early this week after the further sharp fall in the official minimum lending rate. Back Page

● **FURTHER** step was was taken towards the control and regulation of the U.K. insurance broking industry when the Insurance Brokers (Registration) Bill was published. Page 17

● **JOHN BROWN** engineering group is to have a new management company. Page 6

● **FEARS** that another important industrial chemical could be toxic to workers exposed to it (vinyl chloride) over long periods were raised in the interim results of a study of acrylonitrile monomer. Page 6

● **FORD** raised car prices by an average of 6.8 per cent. Page 6

● **RISING** trend of unemployment should be confirmed tomorrow when the results are announced of the first full jobless count for three months. Page 20

● **NATIONAL SAVINGS** suffered the normal pre-Christmas withdrawals of funds with a net outflow of £48.8m. Page 8

● **WAVE** of European investment in the U.S. shows no sign of slowing. Page 8

● **BRITAIN** is to buy Russian synthetic rubber valued at £15m over the next four years. Page 5

Cement up five times in year

● **CEMENT** prices are to rise for the fifth time in a year. Page 8

● **SUNDAY TIMES** is going up by 4p to 22p from next week; Sunday Telegraph will go up from the same day by 2p to 14p. Daily Express problems, Page 20

● **SUBSTANTIAL** proportion of Meriden motorcycle stocks may be bought by GEC as an interim measure to tide the co-operative over its cash crisis. Back Page

● **RIGOROUS** study of all the world's coffee reserves in order to make plans to meet future demand was urged by Sr Camilio Calazans, president of the Brazilian Coffee Institute.

● **SOVIET** industrial production last year rose 4.8 per cent. Page 4

COMPANIES

● **MARTIN THE NEWSAGENT** total sales for the 10 weeks to December 12 were 17 per cent higher than the same period the previous year and the group had a satisfactory Christmas, Mr. B. H. S. Martin, chairman, said. Page 16

● **LOSS-MAKING** Burton Group paid £15,000 compensation for loss of office to Mr. Peter Gorb, a former director who resigned from the Board in October, 1975, annual report showed. Page 8

● **COMPAIR** aims to broaden its product base in the U.S. and to raise domestic earnings in that country to a much higher level, Mr. Niall Macdiarmid, chairman, said. Page 16

Government seeks full public debate on Bullock report

BY JOHN ELLIOTT, MANAGEMENT EDITOR

A Government statement indicating cautious commitment to the Bullock report on worker-directors, but calling for maximum consultation and public debate before legislation, is being completed by senior Cabinet Ministers.

It will be issued at the same time as the Bullock report is published on Wednesday, and is expected to say that any Bullock-based legislation would embrace nationalised industries and companies owned by the National Enterprise Board, such as British Leyland, as well as the private sector.

This will officially unleash a major political battle between industrialists and the Government which has been building up in recent weeks, when opponents of the TUC's ideas for worker-directors have tried to swing public opinion before publication of the report.

The strength of industrialists' feeling on this has caused some concern to the Government. But the broad philosophical arguments and attention to detail evidenced in the report, which Ministers have been reading since Christmas, has impressed some of them about the broad wisdom of the worker-director approach.

Advocates of worker-directors will suffer one major loss when the report is published on Wednesday, and in subsequent weeks.

Lord Bullock, the Oxford historian who was chairman of the committee, has been ill for seven weeks and on medical advice is accepting no public engagements.

This means that there will be no Press conference to launch the report. Lord Bullock has also refused invitations to appear at the vast number of television programmes and conferences planned for the coming weeks.

He has prepared a statement of his views which will be published with the report, setting out why he considers trade union-based worker-directors a desirable reform.

He has also had a powerful influence in the drafting of the report, especially its final 12th chapter, which precedes the conclusions, and sets the report in the context of Parliamentary Reform Bills of the last century.

He says that fears voiced about those reforms proved groundless: "We believe that, over 100 years later, an extension of industrial democracy can produce comparable benefits, and that our descendants will look back with as much surprise to the controversy which surrounded it as we do to that which surrounded the extension of the political suffrage in the 19th century."

CBI fears

Advocating its proposals for a "2x + y" make-up for Boards in a single-tier company structure, with shareholders losing a considerable amount of their present power, the report urges that the trade unions' willingness to accept responsibility for economic and other matters should be harnessed by putting employee representatives in Boardrooms.

This would apply to companies with 2,000 or more employees which, it is envisaged in the report would affect 753 enterprises, or up to 1,800 companies if subsidiaries are included.

Introduction and operation of such a system would be supervised by an industrial democracy commission of employer, trade union and independent representatives.

The strength of feeling against the report was demonstrated by Mr. John Methven, director-general of the CBI, who said at the week-end that "unless this report is challenged and discredited, the corporate face of Britain will be changed irretrievably and the trade unions will control even more peaks of the economy."

With the Engineering Employers' Federation, the CBI is so opposed to statutory introduction of worker-directors that it is not even supporting the minority Bullock Report written by three industrialists on the committee.

This report proposes that, if there must be legislation, it should provide only for slow progress towards worker-directors on supervisory Boards free from trade unions.

The CBI and EEF may use this report as a fall-back position later, but intend to start by opposing the whole idea in principle.

But the Government shows no sign yet of being diverted from its promise to the TUC to publish a Bill by the autumn, which would then start its passage through Parliament next winter.

It will stress in its statement

Continued on Back Page

Moderate Labour MP wins fight to keep his seat

BY RUPERT CORNWELL, LOBBY STAFF

THE LABOUR Right-winger, Mr. Neville Sandelson, last night struck a considerable blow for the party's moderates by winning his fight to remain MP for Hayes and Harlington.

After more than 3½ hours of often heated debate, a special meeting of the constituency's general management committee voted by 24 to 21 against a motion that he should retire as MP at the next election.

The outcome, in doubt until the last will be seen as a major psychological victory in the Right's battle against the seeming Leftward drift of the party, and against the growing influence of extremist activists locally.

Afterwards, an elated Mr. Sandelson, 52, a barrister and founder-member of the Manifesto Group of moderate MPs, said the committee had displayed great commonsense.

"I am delighted for the sake of the Labour Party and for the Government, which would have been severely embarrassed had I lost," he added.

In recent weeks, the Prime Minister, Mrs. Shirley Williams, Education Secretary, and Mr. Michael Foot, Labour deputy leader, as well as Mr. Ron Hayward, the party's general secretary, have all given Mr. Sandelson unprecedented public support.

His troubles in Hayes and Harlington began immediately after he won the seat at a by-election in 1971. They have intensified as more and more Left-wingers have moved on to the 50-strong management committee.

The opposition first centred on his support for the Common Market, before shifting to his outspoken defence of the moderate cause and his backing for the Government throughout its recent difficulties.

Last night's triumph will be a great comfort to the other moderate Labour backbenchers who face similar threats in their own constituencies.

Mr. Sandelson carefully avoided describing the result last night as a defeat of extremism, but added that his fellow Right-wingers could "sleep more easily in their beds."

Mr. Ted Harris, chairman of the committee, and a leader of the faction hostile to Mr. Sandelson, said later that he had no hard feelings.

"It shows we can accept a democratic decision," he said, and ruled out any further attempt to unseat the MP, at least until after another General Election.

At the last general election, Mr. Sandelson had a majority of 9,420.

Richard Evans writes: A further attempt will be made by moderate members of the Labour Party's National Executive Committee this week to reactivate a report into infiltration by the far Left into party membership.

The report, by Mr. Reg Underhill, the national agent, produced evidence of "entryism" by a number of groups on the far Left, but the NEC decided in November 1975 that it should "lie on the table" and no further action should be taken.

Mr Underhill has brought the report up to date with fresh evidence and the attempt to persuade the NEC at Wednesday's meeting to take action will be led by Mr. Tom Bradley, MP for Leicester East and last year's party chairman, and by another moderate, Mr. John Cartwright, MP for Greenwich, Woolwich E.

Moderate members of the NEC, including Mr. James Callaghan, are certain to vote in favour of the reactivation of the Underhill report, but the Left-wing, including Mr. Anthony Wedgwood Benn, the Energy Secretary, will oppose the attempt on the grounds that it could start a party witchhunt against the far Left.

According to party observers, the vote could be extremely close although with a full turnout, the Left has the voting edge.

Letter rates expected to go up by ½p in April

BY KEVIN DONE, INDUSTRIAL STAFF

POSTAL CHARGES are likely to be increased in April, with both first- and second-class letter rates rising by 4p to 9p and 7p, and parcel charges between 15 and 29 per cent.

The Post Office is expected to apply to the Price Commission for these increases. The increases must also be referred to the Post Office Users' National Council, which opposed the last round of parcel increases early last year.

The Price Commission subsequently halved the Post Office application for a 25 per cent. increase on parcels.

The Post Office refused last night to confirm the scale of any application for an increase in charges, but pointed out that letter rates had been frozen until the end of March, and that by then rates would have been held steady for 18 months.

Last year the postal service lost £9.2m. It is expected to break even in this financial year. The parcels service, which continued at a loss this year, was solely responsible last year for the gross loss.

It has run at a loss for all but one of the last 21 years, losing £42.8m. last year, while the rest of the postal service made total profits of £53.6m.

The Post Office says it is not possible to make the parcels service pay solely by marketing and cost-cutting. Increases in parcels charges have been accepted as inevitable by consumer organisations such as the Mail Users' Association, but they are holding talks with the Post Office to discuss prices and the type of services that might encourage increased traffic.

Letter and parcel volumes have fallen steadily in recent years, and the Post Office has come under sustained attack from users for failing to adopt a more "market-orientated" attitude.

To broaden the range of its services it introduces to-day an internally express post service to incorporate fast links between five cities, London (including Heathrow), Birmingham, Manchester, Liverpool and Leeds.

It will be operated experimentally. Four of the cities already have local express post services, and Leeds acquired a local service to-day.

To use the service, customers ring a central control and a messenger picks up the letter or parcel for delivery by the first available train. This will operate to "normal office hours," Monday to Friday, at a minimum cost of 95 an item.

Cost of new Mini increases to £220m.

By Arthur Smith, Midlands Correspondent

THE TOTAL production cost of British Leyland's controversial Mini replacement is now believed to have risen to about £220m., a significant increase on the provisional estimate of some £170m contained in Leyland's 10-year corporate plant published last May.

Concern at the higher cost has been expressed by Mr. Eric Varley, Industry Secretary, before he endorsed the programme to launch the small car, which is expected to be on the market by 1979.

Approved

Mr. Alex Park, managing director of Leyland, has also said that the company can expect no increase in the sum approved by the Government.

Leyland is understood to have won approval for its plans by pointing to the effects of inflation and to the need to introduce advanced technology to meet ambitious productivity targets.

Moreover, investment, though geared specifically to the Mini, will also provide improved facilities for other future models.

Mr. Varley and his Department are known to have reservations about these relatively low rates of return forecast for the scheme and the high risks involved.

The National Enterprise Board is monitoring the project closely and has been instructed to reduce wherever possible, the total cost of British Leyland's capital investment programme.

The Mini is central to the rescue plan for Leyland drawn up in 1975 by Lord Ryder, chairman of the NEB. Success for the small car is essential to keep the company in high volume production and maintain work for the 120,000-strong labour force.

It is understood that Leyland in its 10-year corporate plan considered by the EEF set the cost at a figure of [illegible] £170m for the [illegible] cost of the Mini.

Subsequent more detailed work has shown, even at this technical stage, some as "robust" as follows, increased projected spending to £220m.

Highest

Investment on Leyland's small car will be the highest so far undertaken by the British motor industry. The Longbridge plant, with 25,000 workers in Birmingham, will be completely stripped and re-equipped with high technology equipment.

Work has already started nearby on building a new body plant at a cost of about £40m. Leyland cars is thought to be looking for capacity to build more than 300,000 Minis a year.

Fringe benefits plan faces rejection. Page 12

MONDALE LEAVES FOR BRUSSELS

Callaghan in talks with Schmidt

BY OUR FOREIGN STAFF

WESTERN LEADERS have started an intense series of consultations on the world economy in preparation for the planned international economic summit that will probably be held in late spring.

As Mr Walter Mondale the new U.S. Vice-President, left Washington yesterday for a 10-day tour of six of America's closest allies, Herr Helmut Schmidt, the West German Chancellor, arrived in London for talks with Mr. James Callaghan, at which economic issues are expected to predominate.

So far there is little agreement among Western Governments over what steps, if any, need to be taken to stimulate the world economy.

The new U.S. Administration's views were expounded in an interview yesterday by Mr. Michael Blumenthal, the new Treasury Secretary. He said there was little prospect of a world reflation this year—provided that West Germany, Japan and other nations joined the U.S. in a "substantial and co-ordinated" expansion programme.

Community

The British Government, as Mr. Callaghan will make clear to Herr Schmidt, wants to see further reflation by the U.S., Germany and Japan, and argues that economic recovery must be the over-riding priority for the EEC in coming months.

[illegible] the U.S. and Germany, however, [illegible] the first step. He [illegible] Mr. Mondale will [illegible] Mr. Carter's [illegible] to produce U.S. [illegible] levels in Korea.

Herr Schmidt, who has brought a strong team, including his Ministers of Foreign Affairs, Finance, Economics and Defence.

The British side is expected to press for progress on a new Anglo-German offset agreement to help compensate for the foreign exchange costs of the Rhine Army.

The Germans, however, have indicated that they have already done a great deal to help the British balance of payments through their contributions to the IMF loan to the U.K. and the British government on the sterling balances and by the sympathy they have shown towards the Government's controversial refusal to devalue the green pound—the EEC mechanism used to calculate British farm prices.

Carter intends to treat the Community as a serious international partner.

Although all nine EEC countries are not due to attend the economic summit, which may well be held in London, Mr. Roy Jenkins, the Commission President, is expected to emphasise the need for the summit to produce more constructive results than the last such occasion in Puerto Rico last summer.

The Commission is also likely to round out Mr. Mondale on the Carter Administration's views on the next steps to be taken in the stalled North-South dialogue in Paris and the multilateral trade negotiations in Geneva.

Apart from economic issues, Mr. Mondale will be discussing the state of NATO and will meet Dr. Joseph Luns, its Secretary-General, in Brussels.

He will also brief European and Japanese leaders on American thinking on the Middle East and the prospects for progress in the strategic arms talks and for mutual force reductions in Europe.

In London he is expected to discuss Rhodesia with Mr. Callaghan, who is expected to be the first European leader to visit President Carter — probably some time next month.

The new Administration has been sceptical for some time about the Kissinger initiative in southern Africa and is anxious to hear the British assessment of the present state of negotiations with Mr. Ian Smith, the Rhodesian Prime Minister, and other nationalist leaders.

In Tokyo, Mr. Mondale will seek to reassure Japanese leaders that Mr. Carter's commitments to produce U.S. [illegible] levels in Korea.

Mr. Mondale, who is to visit Belgium, Germany, Britain, France, Italy and Japan, is likely to claim that the package, together with what the Administration sees as a definite upturn in the last six weeks, will be sufficient to bring the American economy out of the "pause" which has caused so much concern in the past few months.

Mr. Mondale's decision to make Brussels his first stop has been warmly welcomed at the EEC's headquarters, where it is seen as positive evidence that Mr.

LOMBARD

The way to cut public manpower

BY COLIN JONES

NO ONE should be really surprised by the recent hardening of the Civil Service unions' opposition to the Government's plans for dispersing some 30,000 more civil servants by 1984 to such places as Clydeside, Teesside, and Merseyside. Nor is one surprised by the unions putting in the forefront of their argument the proposition that dispersal would probably mean a significant immediate increase in the cost of public administration. For the plans which the Government unveiled with much to-do about a year ago for cutting back on the size of the the Civil Service appear to be petering out, only some three-quarters accomplished. Given the apparent failure of this programme, it is only natural that the unions should play it for all it is worth by emphasising the implications of the dispersal plan upon further Civil Service staff costs.

Remarkably, the Government's failure to find—let alone announce—all the cuts it promised last February appears to have escaped public attention. To round off the last phase but two of public spending cuts, Ministers set themselves the target of reducing Civil Service staff costs by some £50m. in 1977-78 and £140m. in 1978-79 (both figures at 1975 survey prices). These reductions were to take place in the civil departments and would be additional to the savings which were expected to emerge from a separate review of the civilian defence staff. At roughly £4,000 a head a year, *including associated* administrative costs, the savings would be equivalent to a reduction of about 35,000 in the number of civil servants by 1978, or about sufficient to bring the expected total by then back to the level of the summer of 1975, which (including the Ministry of Defence) was 740,000-750,000.

Three instalments towards this target have since been announced: a cut of 40,000 jobs in the Ministry of Defence over the next three years, which was twice the number previously envisaged; a reduction of 26,000 in the civil departments to save some £95m. by 1978-79; and a further saving of £10m. in the civil departments. The number of jobs implicit in this last figure has not been stated—a question is down for answer in the Commons to-day—but one is advised that the opacity is deliberate. Within Whitehall, one is told, emphasis is now being placed on savings in money terms rather than in manpower: departments have been arguing that they are *unable further to* reduce their manpower and are offering in lieu economies elsewhere.

This could have been predicted a year ago. Indeed, it was by a study group within the Civil Service Department which told Ministers that, apart from tightening up administrative systems here and there, appreciable savings in manpower could be achieved only as a result of a review of policies. Policies and their administration could not be divorced. But have such reviews been put under way? Has a serious study been launched, for example, to find ways of untangling the lunatic overlap of the systems of income tax and social security? This is perhaps the litmus test of Ministerial intentions in this regard for well over three-quarters of the growth in the number of civil servants over the last decade has taken place in the two departments which collect taxes and the two which handle social welfare payments.

Reluctance

One could raise a similar question about local government. The latest figures suggest that the overall growth in local authority manpower may have all but ceased, but it is also clear that several councils will exceed the Government's expenditure guidelines for 1977-78, principally because of a reluctance to countenance manpower reductions. One also doubts whether many of the more realistic and responsible councils, which realise they now face a prospect of several years of no real growth, are yet doing enough to re-appraise the way in which their activities have expanded in the past and to identify, from studies of comparative performance and other methods, simpler ways of administering them.

Mr. Healey says that he now wants to cut the burden of direct taxes. But he will succeed only if public expenditure can be reduced and that inevitably means a reduction in the number of public administrators. Such economies cannot be secured in a hurry, or if they are they are most unlikely to endure. What is needed is a continuing programme of long-term studies and administrative reforms, perhaps even a manpower budget for each department looking three or more years ahead with a clear indication of how the manpower implications of each new piece of proposed legislation will affect these budgets (and town hall manpower). Now that the fiasco of the last attempt to cut Civil Service manpower *is becoming plain, there can be* no better time in which to set out in this more methodical direction.

THE WEEK IN THE COURTS

Commercial man and the judiciary

BY JUSTINIAN

AN INDEPENDENT sovereign state may not be sued in the English courts against its will and without it consent. Until the Court of Appeal ruled this month to the contrary, the term "sovereign state" included the Government and any department of Government. Now where commercial transactions are conducted by a foreign government (or any agencies of that government, such as a state bank) sovereign immunity *appears to be inapplicable.**

The case that gives rise to this revolutionary decision involved the Central Bank of Nigeria which was sued in respect of its failure to honour its obligations under irrevocable letters of credit amounting to nearly $U.S.50m. The Bank dishonoured its obligation simply because the Nigerian Government had instructed it not to meet the financial liability. When the holders of the letters of credit obtained an injunction against the Central Bank requiring it to retain funds held by the Midland Bank in London, sufficient to meet the liability, the Central Bank sought an order discharging the injunction, on the ground that the proceedings in the English courts infringed the sovereign immunity of the Federal Republic of Nigeria.

Cement

The background to the proceedings focused on the problem of cement in Nigeria. In early 1975 the federal government and its agencies placed contracts with 80 suppliers throughout the world for 20m. tons of cement. The normal annual rate of importing cement was 2m. tons, so that it was physically impossible to handle 20m. tons within the contractual period of 12 months, even if no other commodity was carried to Nigeria by sea. In July, 1975 the new military administration took over the federal government. Faced with serious congestion of shipping through the ports of Nigeria, the government devoted more of the facilities of the port at Lagos to the import of cement, extended those facilities and took measures to prevent or discourage the arrival of ships until the cargoes of cement could be discharged. As part of these measures a system of import controls was introduced. And the Central Bank was instructed to refuse payment for consignments not authorised under those controls.

The first crucial issue was whether the Central Bank is an agency of the Nigerian Government, in the sense that an organisation is part of the machinery of government. The state can claim immunity from suit for an agency, but not for a simple agent, that being too remote from the machinery of government to qualify.

The Central Bank is a legal entity, incorporated in Nigeria by the Central Bank of Nigeria Act 1958. It is not declared by the legislation to be a department of state. Its prime functions are to issue and control the national currency of Nigeria, to operate the machinery of exchange control and to act as the treasury, in the literal sense of the word, of the State of Nigeria. These are essential *functions of the state and could* not be performed by any other body. In addition, the Central Bank is charged with the supervision and regulation of the banking industry, which again is an essential function of the state. For these reasons, Mr. Justice Donaldson last March held that the bank, although established without the Nigerian legislature declaring it to be a department of government, was in fact and in practice a department of the state.

The Court of Appeal thought otherwise. In the bank's ancillary functions, such as issuing letters of credit in ordinary commercial transactions, the area of operations are entirely private and not an aspect of government. The Central Bank also had the power to bank for private customers, although even this power is severely limited; it is specifically forbidden to pay interest on deposits. That was enough, it seems, for all three appeal judges to conclude that the Central Bank is sufficiently an ordinary bank so as not to be an agency of government for the purposes of sovereign immunity.

If that had been the only ground of the Court of Appeal's judgment, the decision would arouse little interest outside the legal profession and those trading with Nigeria who might involve themselves in transactions with the Central Bank. It is the further, alternative ground of the judgments of Lord Denning and Lord Justice Shaw that excites the interest of the international trading community which gets ensnarled with traders who appear to be government-controlled. (Lord Justice Stephenson preferred to rest his decision exclusively on the first ground.)

Distinction

Hitherto no distinction has been drawn in English law for the purposes of immunity of foreign states from being sued in foreign courts, between governmental activities and commercial activities. But the distinction has been drawn by the courts of many countries, including significantly the U.S. The European Convention on State Immunity, moreover, signed by HMG but not yet ratified, indicates at least that the trend of international law is towards denying sovereign immunity where commercial *transactions are being litigated* over.

Lord Denning, who has long been the architect of so much that is new in the law of England, had already indicated that sovereign immunity should be restricted to matters of governmental activity not of a commercial character, in spite of the weight of judicial authority against his view. It will be fascinating to see whether such judicial boldness, which reflects strongly the wishes of commercial men in the trading centres of the Western world, finds accord in the House of Lords to which the case is now consigned.

* *Trendtex Trading Corporation v. Central Bank of Nigeria*

Sea pollution curbs tighten

STRONGER MEASURES controlling pollution of the sea from ships will come into effect a year from now. They are 1969 amendments to the 1954 International Convention for the Prevention of Pollution of the Sea by Oil, and have been accepted by 38 of the 56 nations party to it.

The U.N. Inter-Government Maritime Consultative Organisation describes the 1969 amendments as some of the most important measures devised. They are expected to eliminate a very *large proportion of oil* discharges from tankers. The requirements have already been applied to U.K. ships.

RUGBY BY PETER ROBBINS

Lancashire kicks to win

THE VALE OF LUNE ground, with its gentle setting, was no place for those with weak stomachs as Lancashire beat Gloucestershire 19-15 after a mighty forward clash. So Gloucestershire's great succession of seven appearances is interrupted and it is Lancashire who still face Middlesex in the final.

Despite the intensity, the game admirably and firmly refereed, was never brutal although verbal indiscipline by Watkins, the Gloucestershire captain, probably cost them the game.

The first half was very dull with a series of penalties from Gullick who kicked four for Lancashire and Butler who kicked two for Gloucestershire. They quickly exchanged another just *after half-time and then* as Burton left the line-out prematurely Lancashire were awarded yet another penalty.

Watkins remonstrated and a further ten yards back was ordered. Carfoot cheekily took the penalty quickly and scored in the corner.

With 25 minutes to go, Gloucestershire at last came to life and it was Clewes who scored a try under the posts for Butler to convert. Try as they might, Gloucestershire were ultimately beaten at their own game.

Lancashire's pack was quick to the breakdown and although they could not prevent the young Pomphrey from ruling the middle of the line-out, Neary and Connor were splendid at the back of the line. Further, they were absolutely tremendous in their *wide-ranging* cover.

Under collective pressure at the set, Lancashire contested every maul and ruck with Cotton and Beaumont again performing wonders. Their strength was complemented by the mobility of Trickey, Fisher and Blackhurst.

Tight defence

Pomphrey is unquestionably the best young English prospect *seen for* years but it was the veteran Pullin with vital strikes against the head and Rollitt whose energetic wisdom helped to prevent a heavier defeat.

The supply of balls from Burton and Nelmes was wilfully wasted by C. G. Williams, who kicked far too long and invariably straight into Gullick's arms. So the point of this tactic was lost and Lancashire were always able to clear the danger.

Despite the intentions of Bond and Lyon in the centre, Gloucestershire had immense potential on the wings particularly in Mogg, who was illusive when in possession.

By contrast, Lancashire's half-backs played shrewdly and in conjunction with, rather than isolation from, their backrow. Carfoot gave Horton plenty of ball and the fly-half only made one serious error all afternoon. He tried to dodge yet again when he had time to clear his line. This led to the five-yard scrum and then the next one from which Clewes scored. But no matter, for his kicking was excellent and he managed to get the ball to roll on end over end.

Because of the nature of the game, the Lancashire back play was disappointing with the passing at times static and sloppy. But conversely their defence was tight.

Lyon kicked thoughtfully and productively and Bond, having taken one heavy tackle from Rollitt, was up the next minute to destroy C. J. Williams with a crunching tackle. Lancashire's determination was exemplified by Gullick who, though perhaps slower, fielded and fell before the tide of white jerseys.

To have survived the final Gloucestershire assaults was tribute enough to the whole team and to their industrious captain, Creed.

Thuggee and ennui at Richmond

BY STUART ALEXANDER

ANYONE MINDED to take in both games at Richmond Athletic Ground on Saturday would have seen an interesting contrast in styles, organisation, adaptability and refereeing.

Richmond played Waterloo at 12.30 on the secondary pitch, with the main attraction, the county championship semi-final between Middlesex and Warwickshire, on the first pitch at 2.30.

Richmond had lost their locks, Ralston and Hess, to Middlesex, Waterloo only twice losers in 21 games hitherto had released three players to the other semi-final, between Lancashire and Gloucestershire.

After suffering an initial Richmond onslaught which produced a try and a penalty goal, Waterloo settled down to the grim task of restoring the balance. And grim it was. The forwards played it rough, tough and dirty.

Boots and fists flew, the offside rule was ignored, and head-high tackles added to the aggressive tension as they went unpenalised.

The referee appeared to miss entirely two brawls on the far side of the field long after play had moved away. One involved thuggish retribution for loss of a tooth in the Richmond front row to a punch from a Waterloo lock.

Waterloo won 24—14. In between the rough stuff both sides showed that they could produce passing movements and good line kicking in the mud.

Contrast

The same drive and determination was not so apparent when the big league took to the field.

Their game excited little more than a long yawn, and a cheer of relief at the end.

Middlesex won a place in the final for the second year running, with a 10—0 victory, and so travel to Blundellsands to meet Lancashire on February 27. Whether they will field the same team is open to question.

Saturday's game became bogged down in ineptitude and mud. Both sides were eager to kick away possession, and the additional fumbling and hesitancy of the Warwickshire half-backs was a bonus of which Middlesex made good use.

In contrast with his colleagues of half-an-hour previously, the referee exerted so much control that the game rarely moved more than one phase at a time.

Mordell, the Middlesex flanker, scored two opportunist tries, one converted by Croydon. He was well supported by Alexander (no relation) at No. 8.

Middlesex will have to raise *their game, especially at fly-back,* to win the now-tarnished crown of county champions.

Warwickshire were a sorry sight. Even the old magic of Duckham, in the centre, was a little clouded, and the team looked lost for a good idea.

Coventry provided 11 players including all but one of the backs. Those left behind at Coundon Road managed to beat Swansea 12—0. There is some thing decidedly odd about that

More sport Page 20

SOCCER BY TREVOR BAILEY

Jennings halts Ipswich gallop

IPSWICH'S REMARKABLE run of 17 matches without defeat, which has taken them to second place in the League table with games in hand over Liverpool, ended at White Hart Lane on Saturday with a 1—0 defeat by Tottenham Hotspur, currently struggling in the relegation zone.

In a splendid, action-packed game there was little to choose between the two contestants.

The Spurs certainly rose to the occasion, while the visitors, although not at their best, would have secured the draw they just about deserved but for two scarcely credible saves by Jennings.

Tottenham brought in Keeley at right back and moved Naylor to partner Osgood in the middle of the back four, where he had an outstanding match and was one of the main reasons why the usually dangerous Ipswich front line was so effectively contained.

The introduction of young McNab as the left-hand member of the midfield trio brought extra skill and vision to this division, where Perryman provided a drive which none of the superbly fit Ipswich halves could equal.

Although no goals came in the first half there was no shortage of entertainment. Spurs threatened in the early stages and then Ipswich, having with difficulty survived a series of assaults, gradually assumed control. They were prevented from taking the lead by one great Jennings save and two interceptions by Naylor, once with his head and the other as a result of a beautifully timed tackle.

Determination

After the interval one felt that the understanding which Ipswich have built up would prove too much for the determination of Spurs. Talbot should have scored after a clever chip to Mills, who had run at a defence moving upfield and opened it up.

However, it was Spurs who broke the deadlock with a shot from the deadly left foot of their goal-conscious winger Taylor, coming in from the right following a move down the left flank initiated by the indefatigabl Perryman.

This was the signal for Ipswic to make desperate, almo frenetic, efforts, and but fo another superlative save by Jen nings, from Beattie, they woul have succeeded, so that the fina whistle came as a relief to Tottenham's exhausted players and delighted supporters.

Victory gives Tottenham not only much-needed points but also confidence for the future. If they continue to play with the same fire and skill for the rest of the season they should survive in the First Division.

Although the Ipswich defence without Hunter—injured but due to return soon—was not as tight as usual, the big disappointment was in midfield, where there was abundance of effort, but shortage of subtlety. This was one of the main causes why the forwards were comparatively subdued.

With Liverpool continuing to slip—they lost at Norwich—I have a feeling that Manchester City will prove the most serious threat to their championship aspirations.

RACING BY DOMINIC WIGAN

Pendil wins by a nostril

BILL SMITH steered Fort Devon into the winners' enclosure after Saturday's Fulwell Chase at Kempton, but it was that great veteran Pendil who had won.

In the most exciting race I can remember having seen on the Sunbury course, the Lambourn rivals Pendil and Fort Devon passed the post locked together after a drawn-out struggle from the final fence.

Fort Devon, making ground hand-over-fist, looked all set to nose in front 50 yards from home, but in the final few strides Pendil fought back to such an extent that he still had a nostril to spare where it mattered.

However, if, as seems more than possible, Fred Winter decides to let both Pendil and Lanzarote take their chances in the Gold Cup I have little doubt that John Francombe will opt for the former champion hurdler with the mount on Pendil going to Bob Davies.

What would be interesting to know is who Francome would opt for, given the choice between his own stable's Lanzarote and the Richard Head-trained Border Incident, whom he has ridden to several spectacular victories.

Winter, who brought his tally for the season to 37 when Outpoint obliged shortly after Pendil's triumph, looks all set to maintain his scoring rate at Fontwell this afternoon.

Here, I expect *Rough and Tumble*, a close third behind Major Role and Mount Irvine at Ascot last time out, to land the First Division of the Burpham Novices Hurdle at the expense of the promising Ryhall Grange and *St. Cadwaladr* to gain his third hurdles victory in Div. II of this race.

A third possible winner for Winter and John Francome, who is riding better than ever at present, is that useful handicapper, *Alamein*. This soft-ground specialist, a winner at Plumpton and Leicester last term, is well treated in the Sussex hurdle with 11 st., and can win at attractive odds.

Another in-form trainer, Josh Gifford, looks set to lift the Houghton Amateur Riders Chase with the George Sloan-ridden *Mister Know All.*

As the photograph result was announced, a great cheer greeted Pendil who, encouragingly for his connections, appeared to be blowing a good deal more than Fort Devon.

There is little doubt that there would be no more popular winner than the 12-year-old Uplands gelding at Cheltenham in seven weeks' time.

FONTWELL

1.30—Rough and Tumble**
2.00—Manitee's Venture
2.30—Approaching
3.00—Alamein
3.30—Mister Know All***
4.00—St. Cadwaladr+

SNOW REPORTS

	Depth (cms.) L	Depth (cms.) U	State of Piste	Weather	°C
Andermatt	90	255	Good	Föhn	4
Good skiing on all slopes					
Pfäms	25	120	Good	Föhn	5
Worn patches on lower slopes					
Grindelwald	35	100	Good	Good	4
Slush on lower slopes					
Klosters	105	155	Heavy	Fair	6
Slush on lower slopes					
Murren	95	150	Good	Sunny	1
Good skiing everywhere					
Niederar	120	190	Worn	Föhn	−2
Föhn bringing heavy snow					
St. Anton	185	185	Good	Sunny	3
Conditions generally good					
Tignes	100	285	Good	Cloud	2
Light powder cover					
Villars	60	135	Good	Sunny	
Slush on slopes					

In the above reports, supplied by the Ski Club of Great Britain, L refers to lower slopes and U to upper slopes.

SCOTLAND

Cairngorm: Main runs and lower slopes—all runs complete. Wet snow with patches. Vertical runs 1,600 feet. Snow level 1,300 feet.

Glenshee: Main runs all complete. Lower slopes—ample nursery areas. Hard packed snow. Vertical runs 1,000 feet. Access roads clear. Snow level 1,000 feet.

Glencoe: Main runs and lower slopes all runs complete. New snow on a firm base. Vertical runs 1,400 feet. Access roads clear. Snow level 2,200 feet.

Forecast for skiing areas for Monday: Mainly dry with bright intervals, but fog likely at Glenshee. Freezing level mainly 3,500 feet. Wind SE moderate.

TV/Radio

BBC 1

†Indicates programme in black and white

9.38 a.m. For Schools, Colleges. 10.45 You And Me. 11.00 For *Schools, Colleges.* 12.45 p.m. News. 1.00 Pebble Mill. 1.45 Camberwick Green. 2.01 For Schools, Colleges. 3.15 Songs of Praise. 3.53 Regional News (except London). 3.55 Play School. 4.20 Touché Turtle. 4.25 Jackanory. 4.40 Blue Peter. 5.05 John Craven's Newsround. 5.10 Lizzie Dripping Again. 5.35 Magic Roundabout.
5.40 News.
5.55 Nationwide (London only).
6.20 Nationwide.
6.50 Ask The Family.
7.15 Poldark.
8.10 Panorama.
9.00 News.
9.25 The Monday Film: "Cold Turkey," starring Dick Van Dyke.
11.05 To-night including The Kennedy *Interview* and News Headlines.
11.45 Weather/Regional News.

All Regions as BBC-1 except at the following times:—

Wales—1.45-2.00 p.m. Pili Pala. 2.18-2.38 For Schools: Let's Look At Wales. 5.55-6.20 Wales To-day. 6.50-7.15 Heddiw. 11.45 News and Weather for Wales.

Scotland—5.55-6.20 p.m. Reporting Scotland. 11.05-11.40 Public Account. 11.40 News and Weather for Scotland.

Northern Ireland—2.18-2.38 p.m. For Schools: Green Peas and Barley O. 3.53-3.55 Northern Ireland News. 5.55-6.20 Scene Around Six. 11.45 News and Weather for Northern Ireland.

England—5.55-6.20 p.m. Look East (Norwich); Look North (Leeds, Manchester, Newcastle); Midlands To-day (Birmingham); Points West (Bristol); South To-day (Southampton); Spotlight South-West (Plymouth).

BBC 2

11.00 a.m. Play School.
3.00 p.m. Contact.
3.30 The Education Debate.
4.00 Signs of Trouble.
7.00 News on 2 Headlines with sub-titles for the hard of hearing.
7.05 Wordpower.
7.30 Newsday.
7.45 The Master Game.
8.15 Max Bygraves Says "I Wanna Tell You A Story."
9.00 Eleanor Marx.
9.50 The Age of Uncertainty.
10.45 Centre Play.
11.20 Late News on 2.
11.30-11.35 Closedown. Martin Jarvis reads "Ode on a Grecian Urn," by John Keats.

LONDON

9.38 a.m. Schools Programmes. 12.00 . . . And Maisy Too. 12.10 *p.m. Pipkins.* 12.30 Wish You Were Here . . .? 1.00 News plus FT index. 1.20 To-day's Post. 1.30 Heart To Heart. 2.00 Good Afternoon. †2.35 Monday Matinee: "The Three Musketeers," starring Don Ameche and The Ritz Brothers. 3.50 Emmerdale Farm. 4.20 Clapperboard. 4.45 Children of the Stones. 5.15 Batman.
5.45 News.
6.00 To-day.
6.45 Opportunity Knocks!
7.30 Coronation Street.
8.00 The Cuckoo Waltz.
8.30 World In Action.
9.00 Charlie's Angels.
10.00 News.
10.30 What's On Next.
11.15 People and Politics.
12.15 a.m. Close: Roger McGough reads his own poems.

All ITV Regions as London except at the following times:—

ANGLIA

12.30 p.m. Out of Town. 1.25 Anglia News. 2.00 Houseparty. 2.25 Monday Matinee: "The Hound of the Baskervilles" starring Stewart Granger. 4.28 The Romper Room. 5.15 Run, Joe Run. 6.00 About Anglia. †10.30 Monday Late Film: "Who Killed Teddy Bear?" starring Juliet Prowse. 12.05 a.m. Reflections.

ATV MIDLANDS

12.30 p.m. The Amazing World of Kreskin. 1.28 ATV Newsdesk. 2.25 Mystery Movie Matinee: McCloud. 5.15 Survival. 6.00 ATV Today. 10.30 Two's Company. 11.00 Platform for Today. 11.45 Wait Till Your Father Gets Home. 12.15 a.m. Geoffrey Tucker.

BORDER

12.30 p.m. The Doris Day Show. †1.20 Border News. 2.25 Monday Matinee: "Message to My Daughter." 5.15 Supersonic. 6.00 Border News and Lookaround. 6.15 Garnock Way. 10.30 Rising Damp. 11.00 The Persuaders. †12.00 Border News Summary.

CHANNEL

†1.20 p.m. Channel Lunchtime News and What's On Where? 2.25 The Monday Matinee: Banacek. 5.15 David Niven's World. †6.00 Channel News. †6.10 Speak Out. 10.30 Which Craft?: Glass. †11.00 A Look At New Zealand. 11.30 The Collaborators. †12.30 a.m. Channel Gazette followed by News and Weather in French.

GRAMPIAN

9.23 a.m. First Thing. 12.30 p.m. The *Amazing World of Kreskin.* 1.28 Grampian News Headlines. 2.25 The Beachcombers. 2.55 Marcus Welby, MD. 5.15 Happy Days. 6.00 Grampian Today. 6.10 Top Club. 10.30 A Letter From Robert Burns. 10.40 The Monday Movie: "Baby Love," starring Ann Lynn and Keith Barron. 12.25 a.m. Reflections.

GRANADA

12.30 p.m. The Amazing World of Kreskin. 1.28 Take Kerr. †2.25 Monday Matinee: "The Challenge." 5.15 Elephant Boy. 6.00 Granada Reports. 10.30 Phyllis. 11.00 Reports Politics. 11.30 Spyforce. 12.25 a.m. Thank You and Goodnight.

HTV

1.20 p.m. Report West Headlines. 1.25 Report Wales Headlines. 2.00 Out Of Town. 2.30 Garnock Way. 2.55 *The Zoo Gang.* 4.45 The Georgian House. 5.15 The Muppet Show. 6.00 Report West. 6.22 Report Wales. 10.35 The Savage West: "Firecreek" starring James Stewart and Henry Fonda.

HTV Cymru/Wales—As HTV General Service except: 1.20-1.25 p.m. Penawdau Newyddion y Dydd. 2.00-2.30 Hamdden 6.00-6.22 Y Dydd. 8.30-9.00 Yr Wythnos.

HTV West—As HTV General Service except: 1.20-1.30 p.m. Report West Headlines. 6.22-6.45 Report West.

SCOTTISH

†1.25 p.m. Road and Weather Report. 2.00 Houseparty. 2.25 Beryl's Lot. 2.55 Marcus Welby MD. 5.15 What's Your Problem? 6.00 Scotland Today. 6.35 Crimedesk. 10.30 Late Call. 10.35 Feature Film: "The Shuttered Room" starring Gig Young and Oliver Reed.

SOUTHERN

12.30 p.m. Taste of the South. 1.28 Southern News. 2.00 Houseparty. 2.25 Mystery Movie: Columbo. 5.15 Garnock Way. 6.00 Day by Day. 10.30 Wish You Were Here. 11.00 Phyllis. 11.30 Southern News Extra. 11.40 Canon Collins talks to Owen Spencer-Thomas. 11.45 Farm Progress.

TYNE TEES

9.25 a.m. Starting Point. 12.30 p.m. On The Light Side. 1.20 North East News And Lookaround. 2.25 Monday Film Matinee: "Traitor's Gate" starring Albert Lieven. 3.50 Phyllis. 5.15 Emmerdale Farm. 6.00 Northern Life. 6.40 Police Call. 10.30 Wish You Were Here. 11.00 Championat. 11.30 Elaine—The Singer of the Song.

ULSTER

1.28 p.m. Lunchtime. 2.00 Women Only. †2.30 Monday Matinee: "Miss Robin Hood" starring Margaret Rutherford and Richard Hearne. 3.48 Ulster News Headlines. 5.15 Garnock Way. 6.00 Ulster Television News. 6.05 Mary Tyler Moore Show. *6.30 Reports. 10.30 Monday Night.* 10.35 Monday Special.

WESTWARD

12.25 p.m. Gus Honeybun's Birthdays. 1.20 Westward News Headlines. 2.25 The Monday Matinee: Banacek. 5.15 David Niven's World. 6.00 Westward Diary. 6.20 Sports Desk. 10.30 Which Craft?: Glass. 11.00 Westward Late News. 11.05 Politics West. 11.30 The Collaborators. 12.25 a.m. Faith For Life.

YORKSHIRE

12.30 p.m. Kodiak. 1.20 Calendar News. †2.25 Monday Film Matinee: "Traitor's Gate," starring Albert Lieven. 3.50 Houseparty. 5.15 Emmerdale Farm. 6.00 Calendar (Emley Moor and Belmont editions). 10.30 Wish You Were Here. †11.00 The Monday Night Film: "The *Breaking Point.*"

RADIO 1 247m

(S) Stereophonic broadcast

6.00 a.m. As Radio 2. 7.00 Noel Edmonds. 9.00 Tony Blackburn including The Golden Hour. 12.00 Paul Burnett including 12.30 p.m. Newsbeat. 2.02 Ed Stewart (S) (also on VHF). 4.30 It's D.L.T. OK! 5.45 Newsbeat. 6.02 John Dunn (S) (joins Radio 2). 11.00 John Peel (S) (also on VHF). 12.00-12.05 a.m. As Radio 2.

RADIO 2 1,500m and VHF

6.00 a.m. News Summary. 6.02 Colin Berry (S) including 6.15 Pause for Thought. 7.02 Terry Wogan (S) including 8.27 Racing Bulletin. 8.45 Pause for Thought. 9.02-11.30 Pete Murray's Open House (S) including 10.30 Waggoners' Walk. 11.30 Jimmy Young (S). 1.50 p.m. Sports Desk. 1.55 Good Listening (VHF). 2.02 Ed Stewart (S) as Radio 1, but including on 1500m only (also 88km Scotland). 2.45 and 3.45 Sports Desk. 4.30 Waggoners' Walk. 4.45 Sports Desk. 4.47 John Dunn (S) including 5.45 Sports Desk. 6.45 Sports Desk. 7.02 You've Got to be Joking. 7.30 Alan Dell: 7.35 The Dance Band Days. 8.02 The Big Band Sound (S). 9.02 Humphrey Lyttelton with "The Best of Jazz" on records (S). 10.02 Sports Desk. 10.05 Star Sound. 11.02 Michael Meech with The Late Show (1500m only, also 88km Scotland. VHF joins Radio 1). 12.00-12.05 a.m. News.

RADIO 3 464m, Stereo & VHF

6.55 a.m. Weather. 7.00 News. 7.05 Overture (S). 8.00 News. 8.05 Morning Concert (S). 9.00 News. 9.05 This Week's Composers: Massenet and Hahn (S). 10.00 Talking about Music (S). 10.30 Violin Recital (S). 11.20 BBC Scottish Symphony Orchestra, part 1: Hadyn, Mahler (S). 12.05 p.m. In Short (talk). 12.10 Concert, part 2: McLeod, Beethoven. 1.00 News. 1.05 BBC Lunchtime Concert: Beethoven, Shostokovich (S). 2.00 Matinee Musicale (S). 3.00 London Organ Week 1976 (S). 4.10 Max Bruch concert (S). 4.55 Bandstand (S). 5.25 Ataarah's Music Box (S). 5.45 Homeward Bound (S). 6.00 News. 6.10 Homeward Bound (contd.). 6.30 Lifelines: Home and Family. 7.30 Visiting Baroque Ensembles, part 1: Bach (S). 8.15 Interval Reading. 8.25 Concert, part 2: Bach. 9.20 Hindemith and the Nazis (talk by Geoffrey Skelton). 9.50 Richard Strauss concert (S). 10.35 Music in Our Time (S). 11.25-11.30 News.

RADIO 4

434m, 330m, 285m and VHF

‡ Medium Wave only

6.20 a.m. News. 6.22 Farming Week. 6.40 Prayer for the Day. 6.45 To-day. 7.00 News and more of To-day including Sports News, To-day's Papers and 7.25 (VHF) Regional News. 7.45 Thought for the Day. 8.00 News and more of To-day including 8.25 (VHF) Regional News. 8.45 John Ebdon with the BBC Sound Archives. 9.00 News. 9.05 Start the Week with Richard Baker. 10.00 News. ‡10.05 Wildlife. 10.30 Daily Service. ‡10.45 Morning Story. ‡11.00 News. ‡11.05 Any Questions? ‡11.50 Announcement. 12.00 News. 12.02 p.m. You and Yours. 12.27 Desert Island Discs. ‡12.55 Weather, programme news VHF (except London and S.E.) Regional News. 1.00 The World at One. 1.30 The Archers. 1.45 Woman's Hour (2 from 2.00) including 2.00-2.02 News. 2.45 Listen with Mother. 3.05 Afternoon Theatre (S). 4.35 Story Time. 5.00 PM Reports. 5.50 Financial Report. VHF Regional News. 5.55 Weather, programme news. 6.00 News. 6.15 Hello Cheeky. 6.45 The Archers. 7.00 News. 7.05 The World in Focus. 7.30 Do as I Do. 8.00 The Monday Play (S). 9.15 Glenda Jackson reads Emily Dickinson, America's greatest poet. 9.30 Kaleidoscope. 9.57 Weather. 10.00 The World To-night. 10.45 A Book at Bedtime. 11.00 The Financial World To-night. 11.15 To-day in Parliament. 11.30 News.

For Schools (VHF only)—10.05 a.m.-12.00 and 2.00-3.00 p.m.

BBC Radio London

206m and 94.9 VHF

6.00 a.m. As Radio 2. 6.30 Astley Jones with Rush Hour. 9.00 Weekly Echo. 9.20 Richard Vaughan with London Live. 11.05 Jenny Thompson and Diana Rice with In Town. 12.05 p.m. Call In. 12.45 London News Desk. 2.05 Paul Owens with 206 Showcase. 4.05 Tony Fish with Home Run. 6.00 Look, Stop, Listen. 7.30 Jenny Thompson and Diana Rice with *In Town* (as 11.05 a.m.). 8.30 Breakthrough. 10.05 Late Night London. 12.00-close: As Radio 2.

London Broadcasting

261m and 97.3 VHF

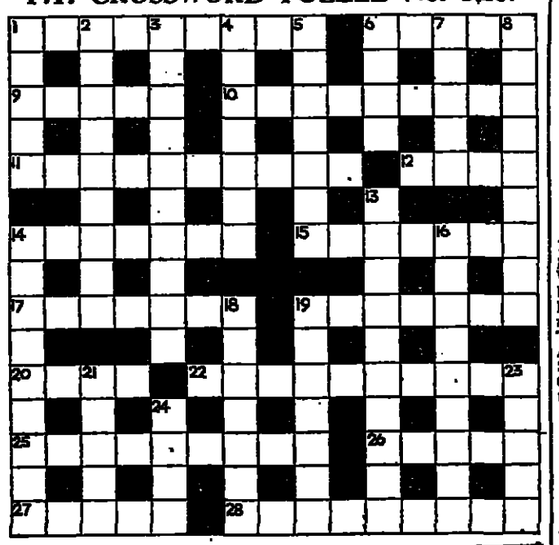
5.00 a.m. Morning Music. 6.00 "A.M." —breakfast-time show. 10.00 Brian Hayes—talking to London. 1.00 p.m. Newswatch. 5.00 Newsbreak. 8.00 Music with Edward Heath. 8.30 Music in Stereo. 9.00 Nightline. 1.00-4.30 a.m. Nightwatch—news every half hour through the night.

Capital Radio

194m and 95.8 VHF

6.00 a.m. Graham Dene's Breakfast Show. 9.00 Michael Aspel. 12.00 Cash on Delivery with Peter Young. 3.00 p.m. Roger Scott's Three O'clock Thrill. 7.00 Cyril Fletcher's Gardening and other London Today features. 7.30 Capital Doctor on Adrian Love's Open Line. 9.00 Your Mother Wouldn't Like It with Nicky Horne. 11.00 Tony Myatt's Late Show. 2.00-6.00 a.m. Night Flight.

F.T. CROSSWORD PUZZLE No. 3,287



ACROSS

1 Does it carry instructions to patient? (5-4)
6 Odds to manipulate unscrupulously and nail (5)
9 One who gets out of bed and goes upstairs? (5)
10 Ruler having influence at Egyptian capital (9)
11 Consider it could be intentional (10)
12 Close southern dwelling (4)
14 Object in part I cleaned (7)
15 Make a hole in a coal vessel (7)
17 Get back in the centre for a procession (7)
19 One who tips about a pound could be a drunkard (7)
20 Explain how to follow start of story (4)
22 Accountant who should make a good librarian (10)
25 Musical drama turning into military action (9)
26 Call out it's all right in the evening (5)
27 Yes, one way to *make fungi* (5)
28 Dim master gets upset in the centre of the watercourse (9)

DOWN

1 Endured death and made a hole (5)
2 Prejudiced about the orchestra initially but not a conductor (9)
3 Shoot deer etc., endlessly as a safety precaution (4-6)
4 Sprinkle hybrid grapes going to the east (7)
5 Lands making unusual teasets (7)
6 15 found in the kitchen (4)
7 Arrive and stretch out the hand (5)
8 A big cuddly toy in the sky (5, 4)
13 Lithe people start taking an additional part (10)
14 Additional way in and round railway (9)
16 Let up on record and sharpen that which is at the end of the line (8)
18 Times go wrong I said too often (7)
19 Meant a keepsake to go to editor (7)
21 The last letter from some gangsters (5)
23 Rhubarb he put in spirit (5)
24 Does Conservative skill land one in it? (4)

The solution of last Saturday's prize puzzle will be published with names of winners next Saturday.

stival Hall

Triple concerto

by DOMINIC GILL

he London Philharmonic hestra's concert under nard Haitink on Thursday, ch began with a new work uciano Berio and ended with t's *The Planets*, included as high point and centrepiece thoven's triple concerto op.

the triple concerto is not sistently great Beethoven, it nevertheless consistently ty and beautiful Beethoven ill never less than instantly gnisable as such. The sts in this performance were Beaux Arts Trio, who ight to the music, almost ays, a splendid combination concerto verve and chamber acy. Once or twice only, ard Greenhouse seemed to et that he was playing nst an orchestra: a few ortant cello phrases, elo ently but quietly whispered, e lost. But his high canta- melody in the largo was t beautifully spun out: and whole movement, by the and orchestra together, turously suspended. The acca Rondo was launched, sustained—never too for-ward, or robust—with quick, delicate gaiety. Happy performance.

Berio's new work, *La Ritirata Notturna di Madrid*, given its premiere recently in Liverpool under Charles Groves, was played in London for the first time. It is in fact no more than a short, exuberant exercise in orchestration: a composite version for orchestra of four different versions (for string quintet, piano and strings, guitar and strings, and strings alone) which Boccherini made of the nocturne from his own string quintet op. 30 no. 6—a series of miniatures depicting various types of music heard at night in the streets of Madrid. Beiro constructs from Boccherini's own four versions a set of 11 tiny variations, seven minutes long—the band approaches, crashes past fortissimo, retreats into silence. The interest is chiefly textural (some passable pretty instrumental combinations) and rhythmic (superimpositions from various quarters of the orchestra of two against three). The effect is charming, and very slight—and reveals not the least trace of Berio himself.

ttelton

No Man's Land

by B. A. YOUNG

reat to see John Gielgud and ph Richardson back again in rold Pinter's little comedy, no s entertaining on my fourth it, and no more meaningful, n on my first. Mr. Pinter's es are not jokes in the sense t Ben Travers makes jokes, or n Ayckbourn; he relies on xpected juxtapositions of ught or of style. Such jokes n't last any better than more ventional jokes, but they don't t any worse, and I am sure that one who enjoyed the play t time round will enjoy it in now, for a second, third, rth or other subsequent visit.

he performance has been a le solidified by its trip ough Canada and the United tes. Sir Ralph emphasises his lavement to alcohol more ly at the beginning than he Sir John (who seems to have t some of the similarity to the ing Anden that I recollect in earlier performances) is less bird-like in his responses to his curious host than I remember him. But in both their cases I doubt if there is better acting to be seen in London at this time, and whatever the shortcomings of the play may be it would be madness not to see it before it finishes on February 24.

There has been one change of cast since the company went abroad. Michael Feast as the younger of Ralph Richardson's two mysterious attendants has been replaced by Michael Kitchen, an actor of similar character whose performance is as good as his predecessor's. He makes Foster a more stridently Cockney character than he was, but he fits as admirably into his slot opposite Terence Rigby's Briggs, the senior of the two retainers.

As a reminder, the director is Peter Hall, the designer, who must have had Beckett's *Endgame* at the back of his mind, is John Bury.

Izabeth Hall

Craig Sheppard

by MAX LOPPERT

laybe it was the fault of piano—a wretched-sounding trument, with spider webs in bass, frogs in the middle, d crickets at the top, which e warning of giving out gether towards the end of final work in Craig eppard's recital on Thursday e Prokofiev Sixth Sonata, ich had by no means received kind of pounding, often its e, that would excuse those clos twangs). Whatever the cause, from a young player who shown himself an intelligent individual as well as an letic pianist, it was an happy and forgettable occa n.

Mr. Sheppard had chosen, as main body of his programme, s of miniatures—Schumann's *ldszenen*, Debussy's *Estampes*, the Seven Fantasies, Op. 116 of Brahms—demanding, each in its different way, extreme fineness in the application of colour shades, in the weaving of textures. Instead, he too often adopted a brash tone that rasped at individual notes, that pounced at rhythms, that overshot climaxes. There was a kind of wild excitement in Schumann's hunt scenes; and, occasionally, a sudden apprehension of his lyricism. But the painterly precision of Debussy tended to be brushed aside, and the epigrammatic nostalgia of Brahms hectored into overactivity. The opening Mozart Sonata, the B flat, K.281, had promised, if not sweetness and charm, then at least a kind of pianistic patience, that then sadly failed to materialise.

ook review

A gent's lament

by KEVIN HENRIQUES

This and 10% by Jim Godbolt. Robert Hale, £4.95. 208 pages

dingtime in Tottenham by Benny Green. Lemon Tree Press, £1.25 (paperback). 107 pages

In the '50s and '60s jazz-band/ p group agent Jim Godbolt s a familiar figure in Soho rs, clubs and pubs. Enter the s, a promoter telling him that youthful clients like to "feel e noise" and Godbolt, finding at he wasn't making a fortune d having committed contemrary society's cardinal sin of ing middle-aged, decided to it. He now reads meters for London Electricity Board.

Godbolt tells his incident- led, rags-to-rags story with tonishing frankness, tinged th understandable misanthropy nd cynicism but entirely with- t bitterness. He is unblushgly honest—and funny—about mself and his see-saw career. ually so about some of the unken jazzmen, crooked proters, shady agents, bookers d club owners, pustular linquents of the pop world d assorted eccentrics with om he worked, joked and ank.

He was agent for the crapulous ck Mulligan band which nger George Melly wrote about graphically in *Owning Up*. odbolt featured in that sweaty- ck saga and devotees of rrealist reality will find his membrances of that Trad jazz era and what followed as rollicking as Melly's.

Successful writer, pundit, panellist Benny Green, on the other hand, was once an obscure saxophone player starting his career playing weddings, dances, socials and barmitzvahs in North London with similarly eccentric characters. Playing an instrument was, he observes in this slim volume, "the only device I could think of for avoiding going to work."

The humour and the characters he describes have a typical seedy, music business flavour. Worth buying for a hearty laugh on a medium-distance train journey.

New awards for books

The Arts Council and the Provincial Booksellers Fairs Association announce that a range of awards will be made for four categories of new work. These will be for literature, book-binding, "the art of the book" and poetry.

A working party composed of PBFA and Arts Council representatives is being set up to decide on the terms and conditions for the awards and a further announcement will be made shortly.

Awards of £250 will be made for literature and book-binding in June 1977 and for "the art of the book" and poetry in June 1978. It is intended to continue the scheme in 1979 and 1980.

Ghita Nörby, Olaf Nussing, Erik Mörk

Copenhagen theatre

The Poetic Ecstasy

by OSSIA TRILLING

Whether by accident or design, the production of a new play by Denmark's foremost playwright at the Royal Theatre this season could not have been more timely. Ernst Brunn Olsen's quasi-documentary *The Poetic Ecstasy* deals with the early days of Ludvig Holberg, his country's first writer for the stage, as resident dramatist at his country's first Danish-language playhouse. By recounting the vicissitudes of the stage two and a half centuries ago, he points an accusing finger at the critical currents that are threatening his theatre to-day.

From the author of the 15-year-old smash-hit *Teenagerlove*, this play has come as no surprise. Its forerunner caused a sensation at the Royal Theatre for its outspoken critique of the troubles of the day, in terms of the rise and fall of an exploited and exploiting pop-singer. Noted in the meantime for a number of socio-critical dramas written with the force and fury of a Danish John Osborne, Olsen has this time surpassed himself.

The Poetic Ecstasy commands attention because of the skill with which the mind of the scholar and erratic genius that Holberg clearly was and the functioning of an unusual, though at times wayward, personality are revealed. In the process Olsen fairly damns the fainthearted philistines who opposed Holberg, in the 1720s no less, by implication, than their curmudgeonly descendants and the self-appointed censors who to-day complain that the taxpayer is being made willy-nilly to pay for a costly social activity that "nobody wants."

The Norwegian-born future Professor of Copenhagen University, who had spent two years at Oxford imbibing Newtonian rationalism, in 1722 became the resident damatist of Denmark's first National Theatre, at the age of 38, and provided it with 28 satirical comedies in the ensuing six years. Then it was closed by a newly crowned pietistic monarch, on the ostensible grounds of lack of money. For Halberg, the war against affectation, provinciality, snobbery, clericalism and meanness of spirit and purse, as mirrored in his stage-plays, was also a war against the Establishment outside. The continuing struggle has a moral for artists of all shades everywhere, and Olsen's great achievement lies in his having reflected both sides of the struggle so fairly and so entertainingly in his latest play.

The action is laid in the six years of Holberg's appointment, from the moment where the French impresario René Montaigu obtains a royal patent for the opening of Denmark's National Theatre to the fire that ravaged the capital in 1728, sparing not even the old playhouse in the Groennegade. Olsen's protagonist is a somewhat cantankerous Holberg, to be sure, living (as he did till his dying day) in bachelor apartments, cosseted by his landlady, whose remedy for all tribulations was the ever-ready cup of hot coffee, delivering to Montaigu in a single day the scripts of five plays that laid the foundations both of Holberg's own career and of the theatre he helped to create, finding inspiration—but no more—in the bodily charms of the company's prima donna (Madame Montaigu), and fighting a running fight with narrow minds and uninformed prejudice. Olsen owes much to the impish sense of humour of his much-admired hero. If the portrait is larger than life—and it is—it is none the less capitivating. And Erik Mørk plays it with splendid panache.

Preben Neegard has directed with a fine sense of period authenticity. Lars Juhl's eye-catching simultaneous setting, which spreads out beyond the orchestra-pit of the Royal Theatre's "New Stage" and divides the action on to two planes, with Holberg's study down-left throughout, and the imposing Groennegade stage seen from in front and from behind by turns, keeps the movement of the events, some palpably historical, others plainly imagined, smoothly flowing, right up to the final, realistically simulated, destructive fire sequence. There may be concessions to spectacle or to sentiment, like the first-act masquerade, or Montaigu's funeral, but the bite of Olsen's (and Holberg's) moral is unmistakable.

Among the Royal Theatre's acting big guns are Elin Reimer, as Holberg's landlady, Olaf Ussing, as the Frenchman whose broken Danish did not prevent him from creating the first Danish National company, Ghita Nørby as his attractively quick-witted wife, Henning Jensen as a Danish Tartuffe, Helge Scheuer as a gay (in every sense of the word) prompter, and Poul Reichhardt, as the ubiquitous Jewish "angel" Isaac, and, last but not least, Erik Mørk himself, with a slight Norwegian accent, lording it over all and sundry, as his plays still do to-day throughout Scandinavia, though inexplicably not much elsewhere, in the role of the ecstatically dramatic poet of the title.

The Entertainment Guide is on Page 12

Purcell Room

Emilia Fadini

by RONALD CRICHTON

Emilia Fadini, who gave an impressive, unusual programme of Italian baroque keyboard music on Friday evening, is not only a harpsichordist but a scholar, re-editing for Ricordi Domenico Scarlatti's Sonatas to replace the superannuated Longo edition. Miss Fadini is also concerned with the publication of the harpsichord works of Alessandro Poglietti. This composer, an Italian at the Viennese court of Leopold I (according to Grove, he was killed during the Turkish siege of 1683), is given honourable mention in books for his descriptive suites, but none of his music was printed in his lifetime and it is rarely heard to-day, even when all sorts of minor baroque figures are dragged from obscurity.

Two of Poglietti's works, a seven-movement Toccatina "on the Hungarian Rebellion," describing the unsuccessful revolt of Hungarian and Croatian nobles against the Emperor in 1671, and a six-movement imperial-wedding tribute called *Lo Rossignolo*, formed a bridge in Miss Fadini's programme between Frescobaldi and Scarlatti. Many harpsichordists have fleet fingers, not all have interesting minds. Miss Fadini's command of the instrument allows her to concentrate on the stuff of the music rather than on technical problems of performance — it is rare to sense a player thinking so hard and profitably about what he or she is playing. One felt the imaginative quality behind Poglietti's descriptive writing, yet the realisation of such things as the nightingale's song was vivid enough on the simplest level (the programme note surely went too far in comparing Poglietti with Claude Lorrain — a lesser painter than Luca "fa presto" Giordano might be nearer the mark).

Not for the first time, Scarlatti overtopped his predecessors. Miss Fadini's choice of ten Sonatas (some but not all played in pairs) was admirable not only in avoiding the better known works—where there are so many to choose from, that is not difficult—but in demonstrating Scarlatti's bewildering variety as well as his sharp intensity, in relating his style or aspects of it to the earlier baroque music heard before, and in suggesting a personal selection based on intimate knowledge and understanding.

Two of the wealth of strange and beautiful things must be singled out: the C major Sonata K132 with its indolent, wayward dissonances, and the mysterious, dreamlike, halting march which I think was K490 in D. An interesting feature of Miss Fadini's playing, not only in Scarlatti, was a rythmic flexibility which in romantic music would be called rubato—occasionally her pauses within a movement felt as long as the breaks between works. But it was an absorbing recital. This musician's future appearances in London should draw a much larger audience.

Appeal for Winchester theatre

Peter Cadbury, head of Westward Television, has set himself to find £150,000 towards the re-opening of the Theatre Royal, Winchester. The theatre, opened in 1914, has a Grade II listing; the Star Group, who have owned it since 1974, wanted to convert it into a supermarket, but planning permission has been refused and the Winchester Theatre Trust has now been formed to ensure its re-opening as a theatre. The purchase price of £35,000 has to be found at once. Mr. Cadbury has given £5,000 and Sainsbury's have promised another £5,000.

The Appeal Committee makes the following proposals. For anyone who will find £35,000, the theatre will be named after the donor. Twenty-thousand will get the donor's name on the bar. Seats can be named for £250 each.

'The Hyphen in Rolls-Royce'

William Douglas Home's play *The Hyphen in Rolls-Royce* will open at the Shaftesbury Theatre in May.

The title of the play refers to the man who brought together the entrepreneur the Hon C. S. Rolls and the engineer Henry Royce. It is to be directed by Alan Davis

Barber Institute of Fine Arts, Birmingham

Julius Caesar

by RONALD CRICHTON

The Barber Institute of Fine Arts has long been, with the Handel Opera Society in London and with Abingdon, one of the temples of Handel-worship in Britain. This year the Institute's operatic wing reverts to the composer already so well served, with a full-length *Giulio Cesare*, presented as *Julius Caesar* in an English translation by Brian Trowell. Winton Dean and Sarah Fuller have prepared the edition from the original version given at the King's Theatre in the Haymarket in 1724 "with," as Mr. Dean's programme note bluntly stated, "no cuts whatever."

Julius Caesar, being one of the more popular Handel operas (in Germany, especially) has suffered badly from the efforts of improvers to bring opera seria into line with what the public is supposed to want, which usually means what is most convenient for the opera company concerned. Caesar, an alto castrato role, has been wooffed through by Wotans and Wolframs and Rigolettos an octave lower than the pitch intended by the composer; Ptolemy and the dead Pompey's son Sextus have been similarly degraded. Mr. Dean restores the original pitches with counter-tenors for Caesar and Pompey, a soprano Sextus and only the two baritones specified by Handel for the lesser roles of Achillas and Curias. Great care has been taken with ornament (for the most part so natural and expressive that one rarely noticed it—surely a compliment) and with the secco recitative, unusually fleet and flexible.

"No cuts whatever"—there we sat on Thursday evening, in various stages between adoration and respectful boredom, from seven until 11.15, with two quite short intervals during which, as a civilised gesture, we were allowed to see some of the riches of the art collections. Of spiritual refreshment there was no lack. Of the other kind, during the long hours that felt longer, there was no sign—never a plastic mug of coffee nor even a dry biscuit, and the Barber Institute is a long, long way from such Birmingham fleshpots as the British Rail buffet on New Street station that, no doubt for the benefit of starving stranded opera-goers, stays open all night.

Such considerations are not purely frivolous. They point to a deficiency in a performance which had some excellent singing and which (under the unflaggingly enthusiastic direction of Ivor Keys) in many ways realised Winton Dean's admirable musical intentions. But *Julius Caesar* takes place in Egypt and is largely concerned with Cleopatra. There is not only political intrigue but feminine caprice, sensuousness and sensuality — Handel's love music is heavy with sensuality. Little of it was reflected in singing or orchestral playing, still less in Jocelyn Powell's sensible, prim production or the designing of Judith Park.

The semi-permanent, triple-arched, quick-changing set made ingenious use of the small stage, but that cream hue known to house decorators as "magnolia" was dismally unevocative of the luxurious, decadent Middle East. Cleopatra was attired in churchy blue, skittish apple-green and a demure lace collar, except for the seduction scene, when she wore virginal white. For "V'adoro, pupille" she was attended by the nine muses, fingering ancient instruments, grouped about her like angels round a Virgin in a Medici print. Such tableaux vivants must have graced many an Edgbaston drawing-room in days gone by, but what they have to do with full-blooded Handel it was hard to see. Over the evening there hung an air of tasteful English uplift. No sex, please, we're bang in the middle of the British Isles.

Even the delightful, admirable Cleopatra of Felicity Lott was partly inhibited by the puritan atmosphere. As a singer Miss Lott can seldom have been heard to better advantage, pouring out fresh, flexible tone in the dazzling, diversified sequence of arias, looking charming but hardly, except in "Piangerò" catching the sultriness which is one of Cleopatra's many facets. Miss Lott did, nevertheless, more than most to support the theory of Handel as a great musical dramatist. Another who did this was Diane Mansfield as Sextus, a two- rather than three-dimensional character, a youth bent on avenging his father's death, as yet uninvolved in the network of baser passions around him. When sung as cleanly and forthrightly as they were by Miss Mansfield, the arias for Sextus prove perfectly suitable to the soprano voice. As Cornelia, aggrieved mother of Sextus, the versatile Meriel Dickinson sang finely without quite convincing us that she was the type for moping in widow's weeds.

Caesar has almost as brilliant a clutch of arias as Cleopatra. James Bowman, who catches to perfection the 18th century stage-hero's swagger and strut as we know it from prints and caricatures, was using his voice with a skill (a few sudden, startling hoots apart) more fantastic than ever. For Ptolemy, John Angelo Messana had composed a grotesque shaven-headed monster singularly improbable as Cleopatra's young brother, amusing in its way, incisively but not pleasingly sung, witty but not so clever as Mr. Bowman at anticipating the audience's good-humoured mirth at some of the lines (Mr. Trowell's version of Caesar's splendid, hunting simile—aria with horn obbligato fitted well). Robert Bateman's vigorous, hard baritone Achillas provided relief from the higher voices.

The brief choruses were taken, in the authentic way, by the principals. Mr. Keys had rehearsed his string players to a point where they dealt nimbly with Handel's so variously expressive accompaniment figures. Woodwind were more reliable than bubbly horns—not all the scoring we were bidden to admire came off, but the long sit was ultimately worth it, and not only for the feeling of musical good works dutifully accomplished. The Barber Institute *Julius Caesar* should drive a few more nails in the coffins of conductors and producers who transpose Handel's castrato roles and chop his arias to pieces. It will not, I think, do much to discourage discreet omissions and may do less than eminent Handelians hope to confirm his supremacy as musical dramatist. They won't, it seems, be content with anything else, though their hero has other virtues enough.

Orange Tree, Richmond

The Island

In this long one-act play James Saunders supposes a world in which men have been exterminated and humanity is carried on by parthaenogenetic females. Five of these self-contained ladies have emigrated to an island where a benevolent nature supplies all their needs. Then one day two men are washed up on their beach from a raft.

The content of the play consists of the conversion of the women from their complacent self-sufficiency to a situation such as existed in our own day before the beginning of Women's Lib. In short, they rediscover the pleasures of romance.

An entertaining theme, but Mr. Saunders has cut too many corners. He explains far too much by the use of establishing speeches instead of through behaviour and inter-reaction, and the conversion, which spreads up, naturally, through the youngest and prettiest of the girls, is achieved without nearly enough argument.

Nearly enough *interesting* argument, that is. There is argument in plenty, but it advances very slowly. If I may make an impertinent suggestion, what the play needs is a dozen songs with witty lyrics and catchy tunes. What may seem inadequate in a straight play will pass well enough in a musical. Look at *A Chorus Line*.

The Island is directed by Roger Swaine. It is inevitable that in plays about tropical islands a lot of action will take place lying on the floor, I suppose; but Mr. Swaine must remember that except for the front rows no one in the Orange Tree's little theatre can see what is happening on the floor. A handy dune would make a power of difference.

B. A. YOUNG

OVERSEAS NEWS

Low targets for industry exceeded in USSR

By David Satter

MOSCOW, Jan. 23.

SOVIET industrial production in 1976 rose 4.8 per cent., a slightly higher rate than that called for in the annual plan, which had set the lowest Soviet economic growth target since the second World War.

According to figures released by the Soviet Central Department of Statistics, heavy industry grew 5.5 per cent., against the plan's 4.9 per cent. target, and consumer goods production rose 3 per cent. against a 2.7 per cent. target.

The targets, however, including the 4.3 per cent. target for overall industrial production, reflected the drastic scaling down of expectation following the 1975 grain harvest disaster and so their modest over-fulfilment is no cause for satisfaction.

National income in 1976 rose by 18bn. roubles to 380bn. roubles, an increase of 5 per cent. but short of the 5.4 per cent. target. Eighty per cent. of the increase was attributed to increased labour efficiency. However, the key category of industrial labour productivity rose only 3.3 per cent. compared to the 3.4 per cent. called for in the plan, the lowest increase since at least 1951.

The statistics indicate that industrial growth slowed during the second half of the year after averaging 5 per cent. during the first six months of 1976. However, there was encouragement to Soviet planners in the final figures in the important areas of gas production, which reached 321bn. cubic metres (an 11 per cent. increase over 1975) and oil production (including gas condensates) which stood at 520m. tonnes, a 6 per cent. increase over 1975.

According to the statistics, agricultural production rose 4 per cent., a rise doubtless aided by the record grain harvest which was given as 224m. tonnes, 200,000 tonnes higher than previously announced.

Foreign trade during 1976 rose by 10 per cent. to reach a total value of 56bn. roubles (nearly £49bn.) and per capita real income rose 3.7 per cent., which was the increase envisaged in the plan.

● THE full extent of East Germany's harvest disaster last year, was disclosed in figures published to-day which showed grain, sugar beet and potato production sharply down on the already poor results of 1975, Reuter reports from East Berlin.

PLO IN MAJOR POLICY SWITCH

Guerillas to open talks with Hussein

BY OUR FOREIGN STAFF

IN A MAJOR change of policy the Palestinian resistance movement has decided to open talks with King Hussein of Jordan in an effort to heal the split between them which dates from the 1970 civil war when Jordanian forces and the guerillas clashed in what became known as Black September.

The decision follows a three-hour meeting of the 40-member Palestine Central Council in Damascus over the week-end in which Mr. Yassir Arafat, chairman of the Palestine Liberation Organisation took part.

The recommendation — which follows an apparently successful visit to Amman last week by a senior PLO delegation led by Mr. Khaled al Fahoum—calls for a dialogue with King Hussein on the lines of the resolution passed at the Arab summit in Rabat in 1974.

The recommendation was adopted after the Central Council discussed the results of Mr. Fahoum's talks with King Hussein in Amman last week.

Mr. Fahoum went to the Jordanian capital to attend the meetings of the Inter-Arab parliamentary union. He and Mr. Hani al-Hassan, political adviser to Mr. Arafat, talked over relationships with Jordan. Mr. Hassan then said he hoped the talks would lead to well-defined and clear relations with Jordan.

The decision by the PLO to open talks with the Hashemite monarch may have important implications for the coming peace offensive co-ordinated by President Sadat of Egypt aimed at reconvening the Geneva conference on the Middle East.

President Sadat has said he would favour some formal link between a Palestinian state on the West Bank and in the Gaza strip and Jordan though many Palestinians remain bitterly opposed to this. The Egyptian leader sees a reconciliation between the PLO and Jordan as an essential step towards negotiating an overall peace agreement with Israel since neither Israel nor the United States are willing to ngotiate on the basis of an independent Palestinian state.

The Central Council also discussed the reconvening of the Palestine National Council (the Palestinian parliament-in-exile). This is due to meet in February and talks are under way to enlarge its membership.

The Central Council, however, apparently failed to resolve the issue which is a sign that the guerilla movement remains deeply split. Major figures such Mr. Zuheir Mohsen, leader of the Syrian-backed Saiqa group and Mr. Nayef Hawatmeh of the Popular Democratic Front, were not present. Reports suggested that a big effort at reconciliation will now get under way.

Saudis welcome Giscard

BY OUR OWN CORRESPONDENT JEDDAH, Jan. 23.

PRESIDENT Valery Giscard d'Estaing of France continued his four-day official visit to Saudi Arabia to-day with a round of talks with King Khaled and Crown Prince Fahd, the Deputy Prime Minister, on what was described later as "world energy problems."

Observers of the talks in Riyadh, the capital, said President Giscard is probably seeking preferential price and quantity agreements for oil imports from Saudi Arabia—about one-third of total French requirements.

The President is obviously anxious to cut his country's trade gap with Saudi Arabia, which last year was about £1,465bn. in the Saudi's favour, by strengthening commercial relations. President Giscard hopes Saudi Arabia will take advantage of easier access to French products, especially motor vehicles, foodstuffs and industrial machinery.

France is at present sixth in the league of exporters to Saudi Arabia, trailing the U.S., Japan, Britain, West Germany and Italy.

In 1975 the French provided 4.2 per cent. of all Saudi imports, a contribution worth about £200m., against 5.3 per cent. in 1972.

Figures for January-November last year showed French exports to Saudi Arabia totalling about £328m., so their position appears to be improving slightly.

French participation in Saudi Arabia's development programme has been confined mainly to the construction and engineering fields, and has not been spectacular so far. However, the French recently won an £866m. contract for the installation and maintenance of two colour television networks in the kingdom, and observers in Riyadh say that the Saudis are interested in French nuclear technology, water desalination systems and, of course, arms.

President Giscard has been warmly welcomed in Saudi Arabia. King Khaled, though he is ill, made a point of greeting Giscard personally at Riyadh Airport yesterday.

J.P. supports Indian Opposition

BY DAVID HOUSEGO, ASIA CORRESPONDENT NEW DELHI, Jan. 23.

JAYAPRAKASH Narayan, the veteran Indian politician, to-day lent his moral stature to the Opposition against Mrs. Indira Gandhi, the Prime Minister, when he told a Press conference here that the coming election offers a choice "between democracy and a fascist type of dictatorship."

The importance of his forthright support for the newly formed Janata (People's) Party is that outside the ruling Congress Party he has probably more widespread popularity in India than any other political figure. The Janata Party—a coalition of non-Communist parties with divergent views united only by their hostility to Mrs. Gandhi—formally launched their campaign to-day.

They called on the Government to release all remaining political detainees within three to four days and to ensure that the Government-controlled radio and television faithfully report the views of both the Opposition and the ruling party and give them adequate opportunity to present their cases.

The newly announced chairman of the Janata Party is Mr. Moraji Desai, Mrs. Gandhi's long-standing opponent in Congress who was released from prison last week only a few hours before Mrs. Gandhi announced the election. Other key members of its 27 member Executive National Committee are Mr. Charan Singh of the Indian People's Party (BLD), Mr. L. K. Advani of the Jana Sangh and Mr. Surendra Mohan of the Socialist Party.

Mr. Narayan — or J.P. as he is commonly known — will act as a father figure in the campaign. In his late 70s and with a kidney disease that requires dialysis every two days, he had his statement read for him. During the Press conference he said little and that in a frail voice. He is to make only occasional further public appearances.

The Janata plans to issue its manifesto in three to four days and to select a list of candidates in ten days. Described over the weekend by Mrs. Gandhi as a group with neither an economic nor a social programme, it counter-attacked to-day over the little time it was given to prepare for elections. There is no denying however, that most of the votes it gets will come from people anxious to register their opposition to Mrs. Gandhi and her emergency rule rather than from faith in either its leaders or its policies.

J.P. touched in his statement on one of the most controversial aspects of Mrs. Gandhi's emergency rule—the unpopular sterilisation programme introduced to bring down India's birth rate. He said that in Delhi and in many parts of the country "the poor have been living in constant fear of being rounded up like animals for forcible sterilisation." Sterlisation has been most associated with Mrs. Gandhi's son Sanjay who was also indirectly attacked by J.P. when he referred to the misuse of justice in favour of the rich and recalled a recent case in which the Press was banned by Government censors from mentioning the conviction on criminal charges of two millionaires.

Sanjay's name is bound to be a focal point in the campaign—a point reinforced to-day by Mr. Desai who, asked whether the Janata Party would choose young leaders like Sanjay, replied "God forbid." However, the age of the Opposition leaders—most are in their sixties and seventies—could tell against them in an election in which Mrs. Gandhi is emphasising youth.

Chirac's power bid challenged

By David Curry

PARIS, Jan. 23.

M. MICHEL D'ORNANO, candidate for Mayor of Paris and supporter of President Giscard d'Estaing, has confirmed that he will not stand down in the face of the decision of the Gaullist leader M. Jacques Chirac to challenge him for the job at the municipal elections in March.

Clearly reflecting the views of President Giscard and M. Raymond Barre, the Prime Minister, he has accused M. Chirac of threatening the unity and discipline of the governing coalition.

For his part M. Chirac the former Prime Minister has insisted that his move is not designed to undermine the President but is to prevent the left winning power in Paris. Since Paris has been under conservative rule for a century without serious challenge most commentators see M. Chirac's motive rather as an attempt to build a personal power base

Meanwhile the government this week faces a series of sporadic industrial disputes to protest variously against its own austerity programme, its intervention in collective bargaining, and to promote claims for better wages and conditions.

The railways will be halted for 24 hours from Tuesday evening while Air France ground, navigation staff and air traffic controllers will strike for 24 hours on Thursday.

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Egypt to seek Arab oil funds

BY MICHAEL TINGAY CAIRO, Jan. 23.

DR. ABDUL Moneim el Kaissouny, Egypt's Deputy Prime Minister and Minister for Economic Affairs, will tour the oil rich Arab States soon to raise money to cover the country's payments' deficit, official sources said.

He hopes to raise at least $2bn. to tide Egypt over for one more year after last week's price riots placed the economic reform programme in jeopardy. Semi-official newspapers said to-day that delegations from the People's Assembly, the Labour Federation and the Arab Socialist Party of Egypt will be sent to Arab countries to explain Egypt's economic situation.

It would be surprising if fund raising efforts are not successful considering the Communist scare which Egyptians can invoke in talks with Gulf State leaders. In less serious circumstances the former Prime Minister Dr. Abdel Aziz Hegazi two years ago raised $1.6bn. on a similar swing round the Gulf. In 1975/76 the Gulf States sent Egypt about $2bn. in loans and deposits. Receipts last year exceeded $1bn., officials estimated.

The Communist scare was given prominence to-day in the semi-official newspaper Al-Ahram which accused the Soviet Union of helping to fan last week's riots.

"It is strange that the Soviet Union should join the band of States hostile to Egypt and exploit the events to inflame them further, it said in a front-page article.

The paper was commenting on yesterday's attack in the Soviet Communist Party daily Pravda which said the riots were the result of Egypt's open-door policy towards Western investors.

But emergency cash injection of this sort will not alleviate the real crisis. It will cover this year's ££866m. payments deficit and could improve the arrears of bank to bank borrowing and supplier credit facilities—Egypt tends to carry about ££.300m. in such arreas. But it will do nothing to correct the imbalance between production and consumption and it by-passes the issue of defence spending which absorbs 40 per cent. of all revenues.

While Egypt's short-term future depends on the immediate generosity of the Arab States, longer term developments will depend largely on International Monetary Fund reaction to the crisis.

With the ball firmly in the IMF court, greater focus than ever is placed on a meeting in Paris, scheduled for March, of a group of Egypt's Western creditors, to be chaired by the International Bank for Reconstruction and Development.

The Paris meeting, at which Egypt is to face all its creditors, was to have taken place this month but was discreetly delayed at the behest of the IMF to give time for application of economic reforms such as cutting subsidies and increasing taxes. Now the Government has reversed its reform policy by rescinding all subsidy cuts following last week's riots

Danish poll set for mid February

BY HILARY BARNES COPENHAGEN, Jan. 23.

DENMARK goes to the polls on February 15 for its third Parliamentary election in 38 months. Prime Minister Anker Joergensen called the election on Saturday after his Social Democratic minority Government failed to reach agreement with other parties on a series of economic policy issues.

The Government did not wait for a vote in the Folketing and has not resigned. Its fate depends on the outcome of the election.

The Folketing, in which there are 11 parties including a one-man independent party, has gone from crisis to crisis in its 25 months' existence but until now the Government was able to reach compromises with the other parties on the major issues. This month, however, an attempt to conclude yet another multi-party compromise foundered on the issues of defence spending, rent subsidies and property tax, a job creation programme and its financing. On each of these issues one or more of the parties whose support was necesary for success would not go along with a compromise acceptable to the others. The Government is especially bitter at what it considers the stubborn attitude of the main opposition party, the Liberals.

Looming in the background is the Government's income policy, setting a 6 per cent. a year limit to wage increases in 1977 and 1978, and the negotiations for new collective wage agreements for two years from March 1. These could lead to a head-on clash between the trade unions and the Folketing, particularly if the Government's rent subsidy policy and job creation programme do not go through. The Government therefore hopes that the new Folketing will be able to facilitate the smooth passage of the incomes policy.

The election, however, is unlikely to make major changes in the Folketing.

Italy optimistic on IMF loan approval

BY DOMINICK J. COYLE ROME, Jan. 23.

THE ITALIAN Government expects the long-delayed $530m. drawing by Italy from the International Monetary Fund (IMF) to be approved finally next month, opening the way, it is hoped, to additional foreign borrowing which would help pay the country's short-term debts.

This optimism is based on several factors, including Ministerial expectations that further talks this week between employer representatives and senior officials of Italy's three trade union confederations will result in a compromise agreement aimed at reducing labour costs throughout 1977.

Official estimates suggest labour costs could rise by 28 per cent. this year on the basis of unchanged policies, and the IMF is insisting on a sharp reduction in this trend as conditions for further credits under the terms of the so-called Jamaica Agreement.

The present minority Christian Democratic Government of Sig. Giulio Andreotti had hoped to win trade union agreement for a radical change in the existing pattern of highly inflationary wage indexation, but this the unions have failed to offer. Instead they are exploring with leaders of Confindustria, the national employer organisation, adjustments outside the arrangements for quarterly threshold payments.

These would cover higher productivity, greater worker mobility, a reduced level of absenteeism, adjustments of indexation arrangements in pension rates and a cutback in the number of public holidays, and could reduce labour costs this year by 16 per cent., the unions say. Government and Bank of Italy economists, however, estimate the savings at considerably under half this figure.

Prime Minister Andreotti expects a final compromise agreement on cutting labour costs will be reached at least in its basic outline, before next Friday when his Cabinet is expected to confirm without substantial changes the proposed employer-labour pact. However, ministers expect that the Government may insist on additional pruning and the Cabinet is likely to announce further austerity measures.

These may include steps to conserve petrol (petroleum products represent Italy's largest single import). The Cabinet may also confirm arrangements for a limited form of rationing of fresh meat supplies, another major import.

Mr. John Volpe, the retiring U.S. Ambassador to Italy, who leaves Rome to-morrow, indicated publicly at the week-end that he expected the $530m. IMF loan to come through in February.

Fatal parcel bomb posted in Botswana

A PARCEL bomb which killed leading Rhodesian African Nationalist Mr. Jason Moyo here on Saturday was posted from Botswana, according to Nationalist sources, Reuter reports from Lusaka.

Mr. Moyo, 50, a vice-president in Mr. Joshua Nkomo's Zapu (Zimbabwe African Peoples Union) responsible for organising the party's guerilla forces, died instantly when the bomb exploded in Zapu's offices here.

Mr. Moyo was expecting a parcel from a friend in Botswana, the sources reported. He did not usually open his own mail because of the number of letter and parcel bombs used in assassinations in Southern Africa. The sources suggested the original package may have been intercepted and replaced with the explosive-laden parcel.

Anglicans to open schools to all races

The Anglican Church in South Africa has announced that it plans to follow the Roman Catholics in opening up its white schools to children of all races, Reuter reports from Cape Town.

A head-on clash is already looming between the Catholic Church and the State, with Government officials threatening to close down Catholic schools which admitted non-whites last week. South Africa's apartheid policy of separation of the races specifically excludes multi-racial schools.

The Anglican archbishop of Cape Town, Dr. Bill Burnett, said yesterday he will meet the Government's provincial administrator, Dr. Lapa Munnik to-day to discuss the opening of Anglican schools in the Cape Peninsula to all races.

Islands defy Lisbon

The 20 per cent. increase in petrol prices decreed by Portugal's minority Socialist Government shows signs of sparking off a political rebellion, Diana Smith reports from Lisbon.

The autonomous regional governments of the Atlantic Islands of Madeira and the Azores have defied the central Government saying they will fix petrol prices at the old rate, subsidising the 20 per cent. increase with local funds.

Conclave ends

Lebanese Christian Conservative leaders yesterday ended their conclave in a mountain convent to discuss the proposed future government system for Lebanon, UPI reports from Beirut.

Attending the three-day meeting were former President Suleiman Franjieh and National Liberal Party leader Camille Chamoun, Phalangist chief Pierre Gemayel and the head of the Maronite Monastic order, Rev. Charbel Iasis.

Israeli initiative

Arieh "Liova" Eliav, former Secretary General of the Israel Labour Party and now member of a two-man faction in the Knesset, is about to leave again for Paris to renew contacts with PLO representatives there, despite Israeli Government disapproval of such contacts, L. Daniel reports from Tel Aviv.

He is expected to meet Issar Sartawi to clear up misunderstandings which arose when former Israeli General Matti Peled, speaking on behalf of the Israel-Palestine Peace Council made statements here upon his return from Paris which were subsequently denied by the PLO leadership.

Ganges dispute

The latest ministerial talks in New Delhi to resolve the long-standing dispute between India and Bangladesh on the sharing of the Ganges River waters have failed, it was officially stated here to-day, Reuter reports from Dacca.

Rear-Admiral Mosharraf Hossain Khan, the Bangladesh delegation leader, told reporters on his return here yesterday that an agreement could not be reached despite what he called concessions by his side. He blamed Indian intransigence for the failure of the talks and said it left no scope for any resumption of discussions during the present dry months when the river is low and Bangladesh needs more water.

WORLD TRADE NEWS

£100m. expansion at petrochemical plant

BY K. K. SHARMA

NEW DELHI, Jan. 22.

giant 3.6bn. rupee (£230m.) rat petrochemical complex, ch will be commissioned in ust, is to be further ex- ded.

dia's Petroleum Minister, R. D. Malivaya, disclosed the ernment has decided to blish new units involving additional investment of 1 rupees (£100m.) with help oreign companies.

he new units will be for nufacture of propylene oxide, ates and other products ting from establishment of talytic cracker in the Koyali ery in Gujarat.

ork on the complex is near- completion and with the com- ioning of the 280m. rupee nates project. The rest of units, including the naphtha ker and downstream units be operational in August.

Mr. Malivaya said a catalytic cracker would be installed also in the new 6m. tonne refinery planned at Mathura in Uttar Pradesh to produce middle distillates and gases for use by petrochemical units.

The Koyali catalytic cracker will be commissioned within three years at the cost of 450m. rupees and Mr. Malaviya said expansion of the Gujarat petrochemicals complex would be financed from resources generated by the present projects.

With the experience gained in the project, the Government plans to export knowhow in detailed engineering, fabrication and erection of petrochemical projects abroad, especially in the Middle East. The chairman of the complex Dr. Varada Rajan, will soon visit the countries concerned for the purpose.

Fewer Japanese cars are imported by Australia

BY KENNETH RANDALL

CANBERRA, Jan. 23.

STRALIAN IMPORTS of cars e virtually static in December 9,425, only 31 fewer than ember. But the Japanese re of imports was down 13 per t. to 7,617 compared with ember, according to the st official statistics.

ccording to industry esti- es, 1976 car sales in Australia e about 596,000 compared the original expectation of o 625,000. Sales prospects for are looking so bleak that industry is preparing a case a cut of at least 10 per cent. he existing sales tax of 27.5 cent. on cars.

ae tax at its present level r more than A$1,000 (about) to the price of an average 000 (about £3,200). Austra- made sedan and since the duation last November many orted vehicles have been ed into the A$10,000 (about 00) bracket and above.

ere are also signs of grow- consumer resistance to the inuous rise in prices over past two years—about 000 (about £1,280) for the est-selling middle-bracket els. January is traditionally oor month for sales and stry sources calculate that current stockpile may dy be as high as 125,000.

ring a similar situation in 1974, the then Labour Government temporarily cut sales tax to 12.5 per cent. to avert threatened widespread retrenchments in the industry. There was an immediate boom in sales but the tax was progressively restored to its full, previous level.

More German beer

By Kenneth Gooding

A FORECAST that the U.K. will become the biggest importer of West German beers by 1978 has come from Mr. Kurt Bettin, U.K. director of CMA, the organisation responsible for promoting German food and drink world wide.

Last year Britain took 9m. gallons of German beer, slightly less than imported by France. But the 1976 volume increase was 38 per cent. compared with 1975.

Eight brands of West German bottled and canned beer are nationally available in Britain. One of them, Löwenbräu, has recently changed its U.K. representation and is now being distributed by Allied Breweries, second-largest of the British brewing groups.

The West German brewing industry takes in 1,700 brewers.

oviet rubber material deal

Y RHYS DAVID, CHEMICALS CORRESPONDENT

ternationa Synthetic Rubber signed a long-term agree- t with the USSR under h it will assume the rights market polyisoprene, a ality rubber material, in U.K. and Eire.

e deal, with the Soviet cy Raznoimport, follows a long test marketing period polyisoprene which is used arily in the tyre and auto- ve industries and in other strial applications where and consistent quality is ntial. The agreement is cted to be worth around over its four-year life.

. Donald Bennett, ISR's rman, said yesterday that the possibility of polyisoprene manufacture in the U.K. was being kept under review. The USSR is currently the world's largest producer of the rubber.

ISR has been involved in co-operative deals with the USSR for a number of years, and during the period of the latest agreement company personnel will be updated on matters relating to applications and product improvement by the Russians.

In 1969 ISR licensed its high soilds latex process to the Soviet Union and a 30,000 tons per annum plant was installed at Yaroslavl for the production of this material.

World Economic Indicators

RETAIL PRICE INDICES

	Dec. 76	Nov. 76	Oct. 76	Dec. 75	Change on year earlier %	Index Base Year
	168.0	165.8	163.5	146.0	15.1	1974=100
	218.8	216.1	211.6	179.2	22.0	1970=100
Germany	140.7	140.0	139.4	135.7	3.7	1970=100
and	175.8	175.8	175.6	162.3	8.3	1969=100
	174.3	173.8	173.3	166.3	4.8	1967=100
lum	161.3	160.5	159.9	150.0	7.5	1971=100
	Nov. 76	Oct. 76	Sept. 76	Nov. 75		
ce	173.2	171.9	170.3	157.3	10.1	1970=100
	Oct. 76	Sept. 76	Aug. 76	Oct. 75		
*	112.4	111.7	108.8	103.5	8.5	1975=100

Base period changed from 1970 to 1975=100.

Computer plan for imports

HM CUSTOMS and Excise are well advanced with plans for the introduction of a computer-based import control system in a number of major ports in a phased programme which is scheduled to start in May 1978.

At about the same time the conventional manual clearance system, which will continue to operate at all other ports (except Heathrow Airport (where the LACES system is used), will be revised to incorporate many of the procedural features of the computer-based system.

The Department already uses advanced data-processing methods extensively, with systems for warehouse accounts, general accounting, the collection of international trade statistics and, more recently, VAT.

Customs have also been a major partner in the advanced London Airport Cargo Scheme (LACES) since 1971. The success of LACES has convinced Customs of the considerable benefits that could be derived from the use of ADP in international trade. One of the main recommendations of a strategic study of the Department's future computer use was that there should be an on-line data capture system for imports.

In the light of that recommendation, a detailed feasibility study concentrating on import entry procedures concluded that, while ADP could not provide a total solution to the problems involved, it could at a reasonable cost offer valuable assistance with them.

Britain's exporters make big impact on booming South Korean market

BY DOUGLAS RAMSEY

SEOUL, Jan 23.

A BRITISH EXHIBITION of gauges and precision tools ended here yesterday, an event as important for British exports as it was inconspicuous in a long line of attempts by British bankers and businessmen to crash the burgeoning South Korean market—something they seem to be doing successfully.

"It may seem hard to believe but this was not just the first British exhibition in Korea, but the first European one too," says Mr. Richard Tallboys, Britain's aggressive commercial councillor in Seoul. The 20 exhibitiors were visibly pleased at the estimated 2,500 turnout for the week long event at the newly opened display centre on the outskirts of the Korean capital.

Response by buyers was overwhelming, according to the participants from the Gauge and Toolmakers Association (GTMA), although most are planning followup visits to seal long term deals. "We could have sold all the products on display many times over," said Mr. John Wakeling, the Department of Trade Organiser from London, and he indicated that most of the companies which were still looking for agents had been deluged with offers.

Britain's long-term prospects for selling to South Korea seem correspondingly bright, and not just in this sector. The new five-year plan which took force with the new year promises $9bn. in industrial plant investment alone, and Seoul is eager to diversify its supply away from Japan and the U.S. All of which spells opportunity for British exporters from 1977 onwards.

Not that 1976 was a bad year for U.K. exports to Korea—far from it. Early estimates show something like an 18 per cent. increase in exports for the year to £65.5m., with the biggest increases reflected in a doubling of electrical machinery shipments. Unfortunately, Britain's success looks paltry compared with Korea's own export drive, which pushed up its exports to Britain by an estimated 85 per cent. last year (to over £110m.).

Korea's export growth was "nicely spread" across a wide range of closing footwear and other products, according to Mr. Tallboys, with the exception of a 500 per cent. boost in plywood shipments.

A brief glimpse at British orders from South Korea in 1976 would support the point. All told, British companies signed some £320m. worth of supplies in goods and services to be shipped over the next five years, and there are presently several major new contracts under negotiation. The biggest U.K. company in Korea last year was General Electric Company which got orders worth £130m. on Korea's second nuclear power plant. (The first, Kori 1, will go on stream in July of this year and British supplies have accounted for a major portion of U.K. exports in the past two years.) Fluor U.K. and Lummis U.K. will be exporting £86m. and £24m. worth of petro-chemical plant respectively, while Ainslow Engineering and Air Products have a £20m. contract for steel equipment. Davy Powergas got a £15m. supply agreement on a new copper smelter and several textile machinery makers secured £20m. worth of new orders.

It is unlikely that Britain will be able to overtake its trade deficit with Korea in 1977. The Ministry of Foreign Affairs has just set another ambitious export "norm" for Korean companies selling to Britain at $320m., up from about $260m. last year. But continued success by the British at taking large supply orders should even things out from 1978.

To back up the export drive, British banks are now much more active in Seoul, in part due to a liberalisation of foreign banking rules. Lloyds Bank International already has a representative in Seoul and plans to open its branch in the city's latest skyscraper, the Dong Bang building, later this year. It joins Chartered Bank, which came in eights years ago, in providing full commercial banking facilities. Meanwhile, the Korean Merchant Banking Corporation set up by Lazard Brothers of London and various Korean interests is taking the lead in international fund raising for Korea, and Hill Samuel is about to set up a similar joint venture this year.

If Britain's trade and banking ties with Korea are looking healthy, there is much still to be done in the way of promoting profitable British investment in Korea. This month Cav Limited of Britain signed an agreement with Brother Commercial Company of Korea to jointly build and own a precision machinery plant worth $5m. When completed in 1978 the factory will supply nearly 100 per cent. of Korea's requirements for diesel engine injector nozzles, and there are plans to extend the factory for the export market.

British investment in Korea is bound to run up against the argument at home that exporters are financing exports which then put British workers out of work. Investigations in Japan and Britain into the damage being done by Korean textile exports are already under way.

In the case of shipbuilding Korea is only just entering the market and whatever ships it does not sell to the Middle East it can absorb at home. The same goes for its car exports. The challenge will be on third markets. Since exports are planned to grow at about 25 per cent. a year to 1981 and industrial plan investment will be worth about $9bn. Britain is wise to secure an early foothole. Korean officials make no bones abount wanting to diversify away from American and Japanese suppliers especially for new technology and arms.

ASEAN in new agreement

MANILA, Jan. 23.

THE ASSOCIATION of South-East Asian Nations (ASEAN) economic ministers approved Saturday the draft basic agreement on the setting up of the so-called ASEAN preferential trading arrangements in keeping with an ASEAN programme for co-operation on basic commodities, particularly food and energy.

In a joint press statement at the end of their three-day "third meeting" here, the ministers recommended that their respective governments authorise the ASEAN foreign ministers to sign such an agreement "as soon as possible."

The arrangements are expected to be signed here when foreign ministers from ASEAN member-countries — Indonesia, Malaysia, Thailand, Singapore and the Philippines—meet here February 24 to commemorate the first anniversary of the ASEAN summit conference held in Bali, Indonesia.

Heads of state of the ASEAN, which was organised in Bangkok in 1968, signed the declaration of ASEAN concord in their Bali conference. They pledged to help each other by according priorities to the supply of individual countries needs in critical circumstances, and priority to the acquisition of exports from member states, particularly food and energy. The statement did not specify the rules and procedures for implementing such agreement.

Battle to-morrow over proportional representation

BY RICHARD EVANS, LOBBY EDITOR

The Parliamentary battle over *attempts to* introduce a form of proportional representation into elections for the proposed Scottish and Welsh Assemblies will be launched in the Commons to-morrow when MPs continue the committee stage of the devolution Bill.

The Government, as strongly *opposed as ever* to the introduction of any form of proportional representation, is likely to win the first skirmish with ease as the Conservatives are badly divided on the issue.

But there are growing signs that the Lords will vote in favour of PR in preference to the *present* "*first-past-the-post*" system, and Tory Peers could make it a major element in any bargaining with the Government over the crucial legislation later in the session.

Opposition

It has been noticeable in recent *weeks how the fierce* opposition displayed by Mrs. Thatcher, the Conservative leader, to PR has become muted because of the strength of support *in favour of a new system* among Tory peers.

Another indication of the party split on the issue came yesterday from Mr. Alick Buchanan-Smith, the former Shadow Scottish Secretary who resigned from the Shadow Cabinet because of his pro-devolution stance and his criticism of the Opposition's decision to vote against the Second Reading of the Scotland and Wales Bill.

Mr. Buchanan-Smith said in a statement released in Edinburgh that it was important to have a voting system that recognised "political realities" in Scotland where there were three *major* parties and not two, and where a "first-past-the-post" system would be unfair.

He claimed that under the present system any of the three parties would require only 37 per cent. of the vote to have possibly more than 50 per cent. *of the seats.*

To counter the argument that a PR system for the Assemblies would make the system more likely for Westminster, Mr. Buchanan-Smith pointed out that a precedent had already been set in Northern Ireland.

"In any case, there is a big *difference between elections to a* sovereign Parliament and to a devolved assembly. The need for decisiveness is not so great since the responsibilities are of a different degree," he said.

His attitude underlines the divergence of view over PR and the failure of the Tory leadership to bridge the gap between the party's pro-devolutionists and the Shadow Cabinet. A high proportion of Scottish pro-devolution Tories are in favour of PR.

Conservative MPs, who were to have been whipped to oppose the all-party amendment in favour of PR to-morrow, are now to be allowed a free vote. This will *give the first opportunity to test* party feeling both among backbenchers and among members of the Shadow Cabinet.

Ford raises car prices by average of 6.8%

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

FORD U.K. triggered off a new round of car price rises yesterday with an increase which almost certainly means that its cheapest vehicle, the Escort Popular two-door, will cost more than £2,000 later this year.

The other big British car manufacturers, with the possible exception of Chrysler, are expected to follow the Ford lead within the next few weeks.

With further rises almost certain to continue on a regular three-monthly pattern, the average buyer will be forced to spend more than £2,000 for a new car this year.

Even the British Leyland Mini may reach this level within 12 months.

The Ford increases averaging 6.8 per cent., seem to have set the pattern for a higher round of rises this winter than last year.

One reason for this is the higher material prices filtering through the system due to sterling depreciation.

The motor industry, for example, has to absorb a 30 per cent. increase in natural rubber prices. Car plastics have gone up by 11 per cent., and steel 8 per cent.

It is thought that Ford can still launch its Fiesta, due in Britain in a few weeks, at less than £2,000.

But it is apparent already that the largest bulk of its sales come from cars well above that level.

The Escort 1300L two-door, for example, now costs £2,150, against £2,028 and the Cortina 1600L four-door will cost £2,606 (£2,436).

Other examples of its new prices are: Capri 1600GL £2,809 (£2,621.5); Granada 2000 saloon £3,130 (£2,898); Granada 3000GL (automatic) £4,788 (£4,433).

Powell charge 'could do harm'

PROSECUTING Mr. Enoch Powell for his "civil war" speech could make race relations worse, said Mr. Praful Patel, secretary of the Committee of U.K. Citizenship, yesterday.

But the Standing Conference of Pakistani Organisations in the U.K. decided after an emergency meeting to call for Mr. Powell's *prosecution under the Race* Relations Act.

Mr. Patel has written to the leaders of the three main political parties calling on them to "avert disaster" over race relations.

His letter to the Prime Minister, Mrs. Thatcher and Mr. David Steel, the Liberal Leader, says: "Mr. Powell's crime is not in stating that there is a race relations problem.

"We all know that there are problems of racial equality and urban deprivation. The indictment which could be made against Enoch Powell is that he poses these problems in the language of violence when he should be appealing for tolerance.

"He is stooping to the basest means of mass communication, reminiscent of Nazi Germany.

"It is not enough to call for Mr. Enoch Powell's prosecution, which minority organisations and many MPs have legitimately asked for. It could make matters worse. In all probability it is just what he hopes could happen when the new Race Relations Act comes into force in April.

"We don't need Mr. Enoch Powell to tell us what the racial atmosphere is like. We do need an urgent joint initiative by the leaders of the three main parties to avert disaster in the interests of all sections of society."

● Mr. John Ryman, Labour MP for Blyth, said yesterday he for Blyth, said yesterday that he privately over his speech if Mr. Sam Silkin, the Attorney-General, decided *not to do so.*

Fish 'poaching'

FISHERMEN in Kent and Sussex are to protest to the Prime Minister and the Minister of Agriculture over Belgian and French trawlers which they say are "poaching" inside the six-mile limit—some only a mile from the South Coast.

Industrial chemical may menace health

By David Fishlock, Science Editor

FEARS that another important industrial chemical *could be* toxic to workers exposed to traces over long periods have been raised by the results of a study of acrylonitrile monomer.

Acrylonitrile monomer is widely used in manufacturing acrylic fibres, some co-polymers and plastic films.

According to *European Chemical News*, European producers have been meeting in Brussels this week to discuss the implications of an interim report on studies being carried out for the Manufacturing Chemists Association in the U.S.

At the half-way stage, a two-year toxicity testing programme sponsored by nine U.S. producers—including Du Pont, Monsanto, American Cyanamid and *Vistron—appears to show* significant responses in animals.

Although the interim report carefully avoids the word "tumour," it implies as much in its phrase "subcutaneous masses," observed after a year in rats given drinking water containing traces of the monomer.

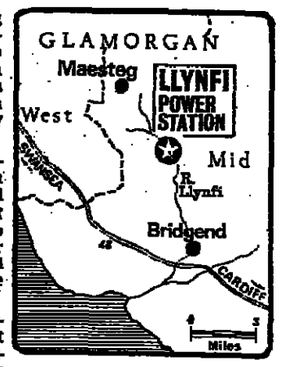
The work is being carried out at Dow Toxicological Research Laboratory.

Yet another toxicity study on acrylonitrile monomer, sponsored by the several European producers—including BP, BASF, Bayer and Hoechst at the Italian toxicity laboratory, which uncovered the cancer-causing properties of vinyl choride monomer, has revealed no evidence of carcenogenicity so far.

Babcock backs plan to generate power from waste

BY MICHAEL CASSELL

THE GOVERNMENT is being urged to persuade Mid-Glamorgan County Council not to drop plans for the conversion of a *redundant* power station into a waste recycling plant which would also produce electricity for South Wales.



The move comes from Babcock Product Engineering, a member of the Babcock and Wilcox group, which claims that the plan would provide up to 60 MW of electrical power for industry in South Wales and also help to solve some of the region's pollution problems.

Mr. D. J. Fairclough, managing director of Babcock Product Engineering, said at the weekend that the company had been discussing with the county council for about a year proposals to change the old Central Electricity Generating Board's Llynfi power station into a waste converter.

The company had already agreed to finance a £50,000 detailed feasibility study of the scheme because of its "*fundamental attractions*" but *was not* prepared to continue without the full support of all the parties involved.

The capital cost of the scheme could be up to £25m. but under the company's proposals this would not fall on the local authority.

Conversion costs would be financed by an interested leasing company, with the retaining capital required being raised by loans.

Problems

Mr. Fairclough continued: "In November, the district and county councils involved decided they did not wish us to proceed with the study, nor to listen to our representatives who had been invited to discuss the scheme.

"We understand that certain members wish to see the power station removed and the valley returned to its original state.

"The waste converter should be capable of generating 45-60 megawatts of power and, of increasing importance, it would enable valuable *materials to be* recycled back to local industries.

"At present, all the waste from this area is being tipped into the ground or on to the foreshore creating environmental problems."

Babcock has written to Mr. *Tony Benn, Energy Secretary,* and several other Government departments, saying that the council's decision was not in the national interest at a time of energy conservation and the scheme warranted further detailed study.

The proposals, it says, would each year make available nearly £2m. worth of steam and electricity to a local factory owned by British Tissues and the plans were in accord with the Government's declared *strategy on* conservation.

Babcock Product Engineering believes that the scheme would present few technical difficulties, and that it could be very difficult to find a better opportunity to implement such a waste conversion scheme in the U.K.

Similar schemes are already operating in Germany and the U.S. and are being considered by other local authorities in this country.

Mr. Fairclough has told Mr. Benn that the plan would preserve about 100 jobs and provide a long-term solution to the problem of waste disposal in a large area of South Wales.

While his own industry would benefit in the short-term from implementation of the scheme, it was evident that the scale of the project could not possibly influence the long-term planning of power station capacity by the *Generating Board.*

If the plant went ahead, surplus electricity would be sold to the South Wales Electricity Board and among materials likely to be recycled would be metals, paper and glass.

Hepatitis B important source of liver disease

BY DAVID FISHLOCK, SCIENCE EDITOR

ONE FORM of hepatitis may be responsible for more chronic liver disease in Britain than alcohol is, according to a report to-day from the Office of Health Economics.

The study finds that at least one person in 500 may be a carrier of the hepatitis B virus, formerly known as serum hepatitis, which can cause a serious form of "yellow jaundice."

It concludes that there may be *an economic as well as a* scientific case for improving control of the virus to lessen the burden of chronic ill-health in later life.

If so, it suggests three lines of research: better ways of identifying the disease; a vaccine for high-risk groups of people; and a way of controlling the carriers.

The report distinguishes between diseases known as hepatitis A (formerly infectious hepatitis) and hepatitis B. Although both are viral infections of the liver which can lead to yellow jaundice, and both *have been notifiable since 1968,* they are quite different diseases.

Hepatitis A, although more common, has a relatively low fatality rate and does not lead to chronic liver damage. Hepatitis B is transmitted in Britain mainly through the use of infected blood, plasma, etc.

Groups of people considered at high risk from hepatitis B include recipients of blood transfusions; patients being treated by renal dialysis (artificial kidney); and medical staff associated with such patients. Drug addicts and those who allow themselves to be tattooed are also at risk.

At risk, too, are travellers to parts of the world, including Africa and India, where the disease is prevalent, and where *it can be transmitted* by mosquitoes.

As many as 5 per cent. of those contracting hepatitis B may die from the disease.

Hepatitis in Britain. Office of Health Economics, 162 Regent Street, W1R 6DD, 20p.

Concern over rising cost of light aircraft fuel

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

THE general aviation (light aircraft) community in the U.K., including many companies, business organisations and individuals owning their own aircraft, *is becoming increasingly* concerned at the steeply rising cost of Avgas, the fuel used in light aircraft.

The General Aviation Manufacturers and Traders Association, representing aircraft owners and operators who collectively employ about 20,000 workers, say that Avgas prices are rising more steeply than those for ordinary motor fuel.

If this trend continues, the association says in a memo*randum to the Commons* Aviation Committee, all those trading in general aviation, including company and private owners, flying clubs, air-taxi operators and others, will face considerable problems.

The association says that Avgas retail prices reached £1.01 *a gallon on December 21, com*pared with 84p for four-star motor fuel.

"We feel our customers should not be unfairly loaded in comparison with the motorist. The fuel prices during 1976. *general aviation aircraft is an* efficient transport vehicle comparing very favourably with the motor car on fuel consumption per seat mile."

Pointing out that the bulk of Avgas is supplied by Shell and BP, with Esso also supplying a small amount which it purchases *from* BP, the association *says* that it wants to know at what level of prices the suppliers will make a profit, on the assumption that the steeper increases than those for motor fuel prices are aimed at this result.

Secondly, it says that if the suppliers have already achieved a gross profit margin on Avgas, they should give the reasons and detailed cost analyses for their recent increases in Avgas prices.

Saying that it had been told by the Department of Prices and Consumer Protection last year that the Price Code restricts the *extent to which increases can be* loaded onto any individual product, the association says it wants to know what restrictions, if any, were placed on Avgas

Fiat X1/9 goes on sale

BY TERRY DODSWORTH

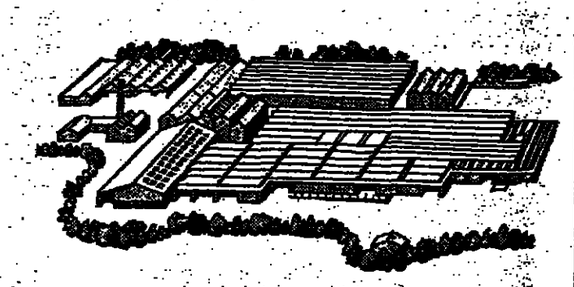
THE FIAT X1/9 sports car, launched in Italy in 1974 and claimed to be the top-selling Italian car in its class, goes on sale in Britain this week.

The mid-engined vehicle, powered by a 1290-cc overhead camshaft engine, will cost £2,997.

Styled by the Italian designer Bertone, the X1/9 is the main rival to the Leyland range of *small sports cars* and, like them, is made in relatively large numbers from some standard company parts. Its engine, for instance, is derived *from the Fiat* 128, but modified to give higher performance.

More than 44,000 units of the vehicle have been sold in the U.S.

Who says that British Industry isn't investing in progress?

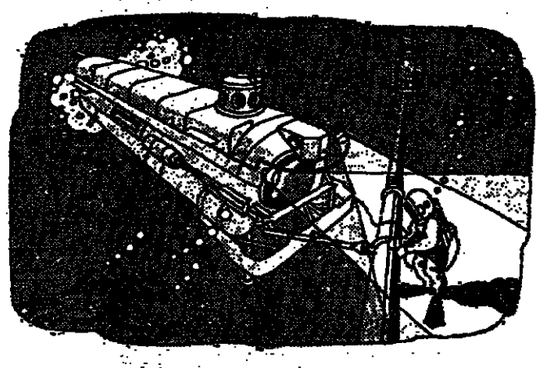


£4 million expansion for Roneo Vickers

Last year Roneo Vickers sold office equipment worth over £90 million to over 100 countries. Now we are building a new £4 million factory for the Group at Romford to meet a growth in demand for stencil duplicators and supplies, postal franking machines and many other types of equipment. Investment in ideas and development has enabled us to design a push button automatic stencil cutter with the unique facility for producing offset masters. More versatile than any comparable machine, it enables people in offices to tackle more and more sophisticated printing jobs 'in house'.

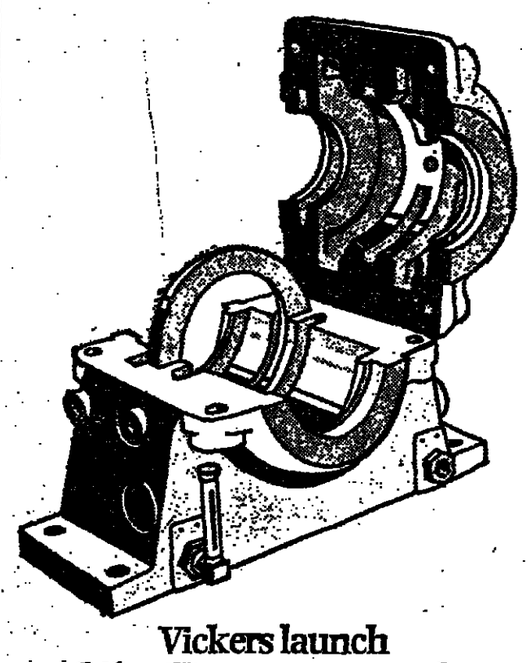
Vickers develop world markets for medical equipment

The vital contribution that Vickers Medical Engineering makes in lifesaving infant care and other medical fields, is healthy for exports too. From portable incubators for Colombia to advanced hyperbaric equipment for Russia, we are winning new markets throughout the world with our skill, resources and advanced technology.



Vickers increase their lead in off-shore engineering.

Vickers are amongst the world leaders in submersibles and support craft for off-shore engineering. When conditions are tough, in what mariners term sea state six, for example, Vickers expertise really comes into its own. We are also deeply involved in developing further techniques, not only for off-shore oil but across a far wider spectrum.

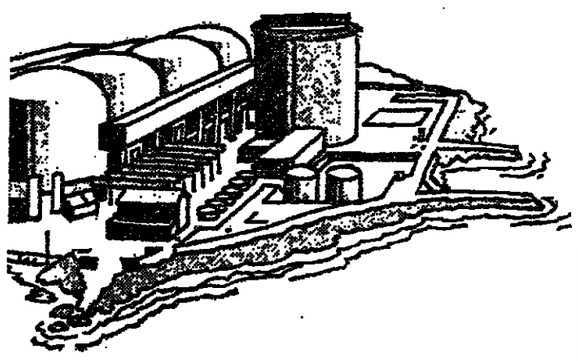


Vickers launch £4½ million programme for Michell Bearings

White metal bearings continue to contribute to progress in many engineering fields. We are accelerating the rate of progress with a new £4½ million development programme at the Newcastle plant of Michell Bearings.

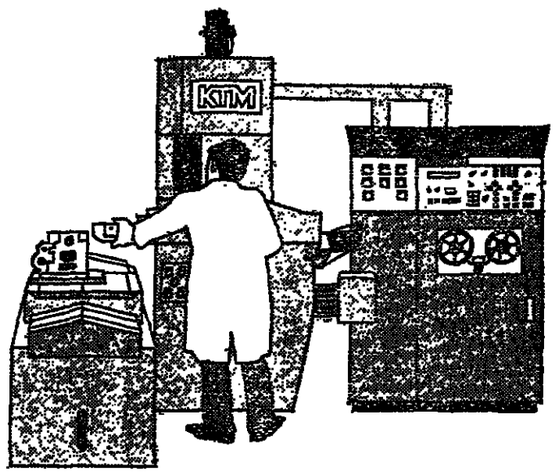
Vickers extend a long-running success in printing

The Alympic Gold and Super Marathon printing plates from Howson-Algraphy were enormous advances in lithographic printing and they have won markets in over 90 countries. Now we are investing in still more technically advanced production equipment and research facilities at Leeds—ready for the next step forward.



Vickers improve nuclear production facilities

Our leadership in producing loops and test rigs in the U.K. for nuclear research in many parts of the world is playing a vital part in nuclear development programmes. We have also expanded our nuclear production facilities overseas with another million square feet of factory floor space in Canada, producing large specialist components used in nuclear stations like the one illustrated here.



Vickers put new power into automated machine tools

Making products to help other people make products has long been one of Vickers major engineering activities. Now we are expanding our interests in automated high-technology machine tools through our recent investment in Kearney and Trecker Marwin.

Vickers expand their interest in the bottling industry

The supply of bottling plant for beer, soft drinks and milk is another field where potential demand continues to be high. We are carrying out advanced new projects in complete bottle handling and filling, and are investing in still more progress through our Vickers-Dawson Division.

Vickers
Building on strength.

Further information about Vickers Limited is available. Please write to address shown.

Vickers Limited Vickers House Millbank Tower London SW1P 4RA

HOME NEWS

Inhospitable face of oil exploration

THE NORTH SEA oilmen agreed that it was one of the worst weekends of the winter. The foul conditions forced operators to make *contingency arrangements* in order to meet their drilling and production timetables.

The high waves and winds—up to storm force 10 in the Forties region—disrupted the movements of goods and personnel in particular. Some helicopters were grounded, the larger ones were forced to carry reduced loads and several supply boats had to suspend operations.

In short, it was the sort of weather that has quickly earned the North Sea the reputation of being one of the most inhospitable oil exploration areas in the world.

Drilling engineer Charles Dunn, from Mississippi, admitted that when he heard he was being posted to the North Sea he was "scared to death."

Looking every inch a seasoned oil man, in tight jeans and Texan boots, Mr. Dunn added: "It is regarded as a rough, dangerous place. I tell you, I didn't know whether to get on the chopper or not."

The Department of Energy has just prepared the accident statistics for last year. Out of the 9,200-strong offshore workforce in the U.K. sector of the North Sea—3,000 on mobile rigs and about 6,200 on production platforms—there were 17 deaths and 57 serious accidents.

Those working offshore point out that most of those injured suffered the sort of factory accident that could happen in a city workshop or construction site.

Familiarity with the conditions now makes Mr. Dunn less uneasy about working in the North Sea. He finds the helicopter ride more disconcerting than the shifts on offshore platforms.

True, the Gulf of Mexico, his previous area of operation, was like a "small lake" at normal times compared with the North Sea in winter, *but the platforms* and drilling rigs have been designed to cope with the worst weather.

The big production platforms still shudder, though, as they are pounded by waves of more than 30 feet and the supply vessels and circling safety boats toss crazily on the grey seas. The semi-submersible drilling rigs and pipe-laying barges—among the biggest in operation anywhere *in the world—ride the* waves more sedately.

On Occidental's Piper Field the wind gusted to 60 knots and waves rose to a height of 40 feet. Conditions became so rough that the semi-submersible rig Bredford Dolphin—being used as a support and accommodation unit for the Piper operations, had to move clear of the platform to avoid the risk of a serious *collision*.

As in other fields, work continued. About 400 men are employed on Piper. Some are completing the assembly of deck structures, others are bringing on stream further production wells.

The field is one of the most recent to yield commercial oil, but is already producing 60,000 barrels a day from two wells. A third well is expected to be brought into production within the next week.

The seven fields on stream are already yielding oil at the rate of 27m. tonnes a year (over a quarter of the country's oil needs). Provided there are no major snags and winter conditions are not too severe, output this year as a whole could reach the top end of the Government's 35m.-45m. tonnes production estimates for 1977.

RAY DAFTER, Energy Correspondent, visits the Piper and Claymore oil fields to find out what conditions are like during the winter storms.

Wildt Mellor closes Leicester factory

BY OUR LEICESTER CORRESPONDENT

WILDT MELLOR BROMLEY, part of Bentley Engineering Group and one of the companies which has made Leicester into one of the world's top knitting machinery manufacturing centres, is to close to its Aylestone Road, *Leicester factory, with a loss of* between 380 and 390 jobs.

The decision is linked with plans to consolidate operations at the company's more modern St. Saviours Road factory, Leicester. At the root of the setback is a fall in orders for double jersey circular machines throughout the world.

News of the closure was given suddenly at the week-end—the company complying with the issue of the statutory 90 days' redundancy notices.

In spite of its international reputation, the company said business had been hit hard by *the recession, which already had* caused some other international competitiors to retrench and others to go out of business.

To ensure the future of the *business and maintain employment* for the maximum possible numbers in the long term, it had to rationalise its total operation.

The immediate reaction from trade union leaders, headed by Miss Bridget Paton, district secretary of the engineers, was to protest that the company decision had been made in an arbitrary manner.

Miss Paton said yesterday: *"We have been talking to the* management on other matters concerned with the company recently and have received not an inkling of these plans.

"I am very depressed that they did not see fit to discuss any suggestions we might make, such as worksharing, before *making such a serious decision."*

Wildt Mellor Bromley employs 2,000 people and claims that consolidation at St. Saviour's Road will enable it to continue the business on a more efficient basis, with a labour force geared to present and potential demand and anticipated sales.

"*Recent rationalisation* of Bentley Engineering Group has been helped by close co-operation between all parties," the company added.

"*To sustain the Wildt Mellor* Bromley company through this difficult but essential re-organisation, maximum co-operation at all levels will be required if further job security is to be maintained.

"Bentley is also in the final stages of closing down its Parker Drive Leicester plant and consolidating its sock-making machinery operations into the New Bridge Street *factory*."

A recent survey by Knitting International magazine showed that in Europe alone, the labour force in circular knitting machinery-making—most of it double jersey—was halved between 1974 and last year.

In the U.S. in 1960, 1,000 *machines* were in use, with a spectacular increase to 25,000 by 1972. Machines were being imported at the end of the boom at a rate of 6,000 a year, mostly from Europe.

Now, it is estimated that there are only about one-third of the 25,000 machines in production and they are being unloaded at give-away prices by collapsed knitting companies.

The Leicester Employment Service Agency said yesterday *that the redundant workers had* a good chance of finding alternative work in the area. Job prospects in the engineering industry locally are the best since 1974.

Burton ex-director is paid £15,000

By Michael Lafferty

THE LOSS-MAKING Burton Group paid £15,000 compensation for loss of office to Mr. Peter Gorb, a former director who resigned from the Board in October, 1975, it is disclosed in the 1976 annual report published to-day.

The report also states that Sir David Barran, recently appointed deputy chairman of Midland Bank, will not be seeking re-election to the Board.

Burton reported an attributable deficit of £3.46m. for the year to August 23, 1976—compared with a profit of £1.65m. for the previous year.

The company announced last November that Mr. Ladislas Rice had resigned as chief executive as part of a major management reshuffle in which Mr. Cyril Spencer was promoted to group managing director.

Mr. Rice retains the role of chairman, a non-executive position, but it is thought he may soon sever all connections with the group.

Burton is now concentrating on expanding its womenswear businesses as well as improving the profitability of the menswear activities.

Report, Page 16

Lex, Back Page

Cement-makers seek fifth price rise since last January

BY MICHAEL CASSELL, BUILDING CORRESPONDENT

CEMENT PRICES are to rise for the fifth time in a year. The Cement Makers' Federation has applied to the Price Commission *for an increase of about 3½ per* cent., and further rises are expected in the spring.

The average price per tonne of bagged Portland cement is £19.84—against £16.71 a little over a year ago. Last year prices rose in January, May, July and November, almost entirely *because of rising fuel costs.*

The latest increase was at one stage expected to be considerably higher than 3½ per cent., but the manufacturers say that all the fuel cost increases have not come together, and some will not take effect until spring, when further rises will be "contemplated."

Fuel cost role

Cement deliveries last year *again showed* a decline over the previous year. Manufacturers expect this year to be worse, with no prospect of an upturn in demand until next year at the earliest.

The latest figures suggest that deliveries last year reached about 15.45m. tonnes, a fall of between 7 and 8 per cent. on the year, and worse than had been generally anticipated. Most manufacturers thought demand would be down by 4 or 5 per cent.

The disappointing picture last year came on top of two very bad years. In 1974 demand dropped by over 12 per cent. from the high level of deliveries in the preceding year and sales fell by a further 4 per cent. in 1975.

It is thought that because of the slump in demand caused by the continuing recession in the construction industries, the industry lost about 2m. tonnes in capacity last year as a result of works closures.

Early last year Tunnel Holdings made nearly 700 redundant by closing its production plant at West Thurrock, Essex. The *plant had an annual capacity of* just under 1m. tonnes, nearly a third of the company's total output.

Associated Portland Cement Manufacturers, the Blue Circle Group, announced production cuts at three plants, at Luton, in Lincolnshire and Essex, involving about 500 redundancies. In the past two years the group has reduced manufacturing capacity by over 2.5m. tonnes and made over 1,000 redundant.

Despite the big reductions in the industry's capacity, the larger manufacturers are trying to keep enough reserve capacity to meet any *upturn in demand* from the construction sector, although no significant increase in sales is expected for a year at least.

Thirty more coal mines needed

THIRTY new mines producing about 150m. tons of coal a year would be needed in Government expansion plans for the coal industry to the end of the century, Mr. Alex Eadie, Under Secretary of State at the Energy Department, said yesterday.

"We have recoverable reserves of coal which will last for 300 years at current rates of extraction," Mr. Eadie said.

Strategy for the 21st century, when domestic oil and gas supplies would tail off was being formulated, involving such other forms of energy such as nuclear power, the wind, the waves and solar power as well as coal supplies.

National Savings fall by £48.8m.

NATIONAL SAVINGS suffered the normal pre-Christmas withdrawal of funds last month with *a net outflow of £48.8m.*

The brunt of these withdrawals was borne by the Savings Banks. Ordinary accounts in the National Savings Bank had an outflow of £25.6m., while the ordinary department in the Trustee Savings Bank went down by £39m. and special investment *departments by £25m.*

The main inflow of funds came from savings certificates, which brought in £89.8m. against repayments of £34.1m., giving a net receipt of £55.7m.

About £60m. of the funds generated by Savings Certificates came from the new 16th issue launched on December 13.

The speed at which this has been sold gives some indication of the attractiveness of the certificates, *which offer a return* equivalent to £8.78 per cent. a year free of income tax and capital gains tax.

These were the best monthly certificates sales since the introduction of the retirement certificate in June, 1975.

Norwich bound

MORE THAN 700 Civil Servants are moving to a £2½m. office block in Norwich over the next 18 months when the Government moves the rest of the Stationery *Office headquarters from London.*

This week in Parliament

TO-DAY — Commons: Water Charges Equalisation Bill, second reading. Motions on Road Vehicles (Registration and Licensing) (Amendment) Regulations.

Lords: Patents Bill, second reading. Counter Inflation (Price Code) (Amendment) Order 1976.

Select Committees: Expenditure, general sub-committee. Subject: developments in the Civil Service. Witnesses: Lord Armstrong of Sanderstead, Sir Derek Rayner. Expenditure, Education, Arts and Home Office sub-committee. Subject: The *attainment of the school leaver.* Witnesses: N.U.S. 4.15 p.m. Procedure Committee: Subject: Public Bill procedure. Witness: Mr. Humphrey Atkins.

TO-MORROW. Commons: Scotland and Wales Bill (Committee).

Lords: Criminal Law Bill (Committee stage). Social Security (Contributions rating) Order. Town and Country Planning (Scotland) Bill (third reading). Marriage (Scotland) Bill.

Lords: Debate on the economy and December mini-Budget.

Select Committees: Nationalised Industries (sub-committee "A"). Subject: British Rail. Witnesses: National Freight Corporation.

WEDNESDAY. Commons: Scotland and Wales Bill (Committee stage.

Select Committees: Expenditure, Trade and Industry sub-committee. Subject: The Fishing Industry. Witnesses: Dr. David Owen, Min. of State, Foreign Office; *Mr. P. Duffy, Navy Under-*Secretary; Mr. J. Wellbeloved, Air Force Under-Secretary.

Nationalised Industries, sub-committee "B." Subject: British Steel Corporation. Witnesses: Scrap Federation. 10.45 a.m.

Expenditure, Environment sub-committee. Subject: Planning procedures: Witness: Mr. Hugh Rossi MP. 4 p.m.

Nationalised Industries Sub-committee "C." Subject: Horse-race Totalisator Board. Witnesses: Betting Office Licensees Assoc.; Editor of Sporting Life. 4 p.m.

THURSDAY. Commons: Debate on prevention of crime. Motion on Adoption Agencies Regulations.

Lords: Criminal Law Bill (committee stage).

Select Committees: European Legislation, sub-committee II. Subject: Regional Development Fund. 4.30 p.m.

FRIDAY. Commons: Private members' Bills.

WAVE OF EUROPEAN INVESTMENT IN U.S. ROLLS ON

'Last bastion' of capitalism

BY GEOFFREY OWEN

THE WAVE of European investment in the U.S., regarded by many pepole as the last bastion of capitalism, shows no sign of slowing down.

Racal, whose $46m. bid for Milgo Electronic of Florida was announced on Friday, is the latest to take the plunge, though in this case the presence of a rival bidder makes the outcome uncertain.

The table lists a few of the major deals which have taken place in the past couple of years. Others are in course of negotiation.

If there is a common thread, it is the belief that the U.S. is the most lucrative single-country market available. It offers a more hospitable environment for profitable private enterprise than most of Western Europe. It is politically stable, the trade unions understand profits and accept for example the necessity for redundancies when demand is weak or markets change, and interference from Government is less burdensome than in Europe.

Add to all this the fact that the U.S. has been relatively successful in controlling inflation—hourly labour costs are lower than in parts of Europe — and the attractions of the country for industrial investment are compelling.

Europeans seem to have lost their sense of interiority in the face of American business expertise, possibly because of the performance of some U.S. companies in Europe.

There is a wider realisation that if a company has a world-beating product, it is essential to participate directly in the U.S. and this usually requires an acquisition to create a visible presence on the scene.

Only a few very large companies, such as Michelin, Volkswagen and the big European chemical concerns, have the *resources and the market* position (built up through exports) to set up their own plants from scratch.

Joint ventures are out of favour. The preference is for majority control. The exceptions include the minority stakes bought by such companies as Flick and Bosch (listed in the table), which are more in the nature of portfolio investments, though with obvious possibilities of industrial co-operation.

There is a preference, too, for agreed bids which avoid the expense and delay of litigation. As the French metals group, Imetal, showed in the battle for Copperweld, however, there is no reason why a determined European bidder should not fight its way to victory.

Most of Copperweld's top management, incidentally, have been kept on and relations with Imetal are now said to be amicable.

The acquirer normally looks *for a strong, established management* team, but as European confidence increases there is a greater readiness to take on problem companies and bring over European managers to sort them out.

Creusot-Loire, for example, bought a controlling interest last year in Phoenix Steel, a specialised steel plate manufacturer with poor profit performance, and put its own man in charge.

Another large company with a patchy record is Certain-Teed, the building materials manufacturer, which is now controlled by St. Gobain-Pont-à-Mousson.

The simplest way in, involving no direct appeal to shareholders, is to buy a division of a large U.S. corporation. Thus Daimler-Benz has signed a letter of intent to buy the Euclid earth-moving *equipment business from White* Motor: the same American company agreed in principle to sell its diesel engine subsidiary to GEC.

Since a number of diversified U.S. companies are tending to "de-merge" and concentrate their resources on fewer activities, more opportunities of this sort may become available.

Just as U.S. companies which rushed into Europe during the 1960s made many mistakes, so the fashion for investment in the U.S. is certain to lead to errors. Most European firms have a healthy respect for their U.S. rivals, though, and are aware of how competitive the market is. They are likely to move carefully.

Nevertheless, they can hardly fail to be impressed by the *success of those who have made* the move. Cavenham in supermarkets, United Biscuits in biscuits, Stone Platt in textile machinery, Chloride in batteries, Hanson Trust in food—these and several others have established in the last few years a firm and profitable base in the U.S. which brings direct and indirect benefits to the rest of the group.

There are plenty of companies preparing to follow their example.

SOME RECENT INVESTMENTS IN THE U.S.

European company	U.S. company	% of equity	Price paid ($m.)
Flick (Germany)	W. R. Grace	11.3	104
Bosch (Germany)	Borg-Warner*	9.7	63
Imetal (France)	Copperweld	69	80
Sandoz (Switzerland)	Northrup King	99	197
Hawker Siddeley (U.K.)	Onan	36	36
Babcock & Wilcox (U.K.)	American Chain and Cable	100	70
Ranks Hovis McDougall (U.K.)	Red Wing	10	23
Tilling (U.K.)	Intermedco	100	15

* Provisional agreement.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business, and financial engagements *during* the week. The Board meetings are mainly for the purpose of considering dividends and official indications are not available whether dividends concerned are interims or finals. The sub-division shown below is based mainly on last year's time-table.

TO-DAY

BOARD MEETINGS—
Finals:
Alexanders Discount
Bamfords
Derby Trust
Warren Plantation Holdings
Interims:
Econa
Rivlin (J. D. and S.)

DIVIDEND & INTEREST PAYMENTS—
Atkins Bros. (Hosiery) 0.875p
Avon Rubber 4p
Bambergers 0.7315p
Bulmer and Lumb 1.2375p
Burnett and Hallamshire 1.2779p
Churchbury Estates 1.594p
Danks Gowerton 0.7p
Elliott Group of Peterborough 1.03p
Gateway Securities A Ord. 0.65p
Hunslet 2.06456p
Norcros 1.5p
Pahang Consolidated (tems. susp.) 2.5p
Telfer 2p

TO-MORROW

COMPANY MEETINGS—
Central Manufacturing and Trading, Savoy Hotel, W.C., 12
Davenports Brewery, Birmingham, 12.15

BOARD MEETINGS—
Finals:
Abbey Panels
Ashdown Investment Trust
Capital and County Laundries
Lincroft Kilgour
Interims:
Cowan de Groot
Hales Properties
Hambro Trust
Henderson-Kenton
M.L. Holdings
Scottish English and European Textiles

DIVIDEND & INTEREST PAYMENTS—
Attwood Garages 0.6125p
Bankers Trust New York 75 cts.
Cement Roadstone 7pcPf. 2.275pc
Consolidated Co. Buffrontein Mine 5.5 cts.
Davenports Brewery 1.7524p
GEI International 1.306p
Grootvlei West Diamond Mine Co. Dutoitspan Mine 25 cts.
Manufacturers Hanover 45 cts.
Normand Electrical 0.9529p
Smith (W. H.) and Sons A Ord. 3.09p. B Ord. 0.618p
Sopemana Group 1p
Stallex International 1.58p

WEDNESDAY, JANUARY 26

COMPANY MEETINGS—
Devenish (J. A.) Weymouth, 12.15
General Stockholders Investment Trust, Winchester House, E.C., 10.45
International Computers, Winchester House, E.C., 12
Lloyds and Scottish, Piccadilly Hotel W., 12
MEPC, Dorchester Hotel, W., 12
Redman Heenan International, Connaught Rooms, W.C., 12
Staveley Industries, Connaught Rooms, W.C., 12
Wolverhampton and Dudley Breweries, Dudley, 12

BOARD MEETINGS—
Finals:
Allied Manufacturing and Trading
CGSB
Fletcher Engineering
Greenfriar Investment
Henlys
Lonrho
Mears Bros.
Standard Trust
Interims:
Austin (James) Steel
Bashton and General Investment
Macarthys Pharmaceuticals

DIVIDEND & INTEREST PAYMENTS—
Bass Charrington 2.8523668p
Blaby 10½pcBds. Red. 26/1/77 £5.3938
Boston 10½pcBds. Red. 26/1/77 £5.3938
Brent 10½pcBds. Red. 26/1/77 £5.3938
Bury 10½pcBds. Red. 26/1/77 £5.3938
Calderdale 10½pcBds. Red. 26/1/77 £5.3938
Central Manufacturing and Trading 1.19457p
Chichester 10½pcBds. Red. 26/1/77 £5.3938
Chorley 10½pcBds. Red. 26/1/77 £5.3938
Cleveland 10½pcBds. Red. 26/1/77 £5.3938
Corby 10½pcBds. Red. 26/1/77 £5.3938
Cotswold 10½pcBds. Red. 26/1/77 £5.3938
Dacorum 10½pcBds. Red. 26/1/77 £5.3938
East Cambridgeshire 10½pcBds. Red. 26/1/77 £5.3938
Edinburgh 10½pcBds. Red. 26/1/77 £5.3938
Fareham 10½pcBds. Red. 26/1/77 £5.3938
Fenland 10½pcBds. Red. 26/1/77 £5.3938
Harrow 10½pcBds. Red. 26/1/77 £5.3938
Hurst (Charles) 2.66p
Metropolitan Police 10½pcBds. Red. 26/1/77 £5.3938
Moss (Robert) 0.9075p
Newcastle-Under-Lyme 10½pcBds. Red. 26/1/77 £5.3938
North Devon 10½pcBds. Red. 26/1/77 £5.3938
Oxfordshire 10½pcBds. Red. 26/1/77 £5.3938
Roxburgh 10½pcBds. Red. 26/1/77 £5.3938
Sandwell 10½pcBds. Red. 26/1/77 £5.3938
South Wight 10½pcBds. Red. 26/1/77 £5.3938
Stanhope General Investment 0.9p
Strathclyde 10½pcBds. Red. 26/1/77 £5.3938
Strathkelvin 10½pcBds. Red. 26/1/77 £5.3938
Thamesdown 10½pcBds. Red. 26/1/77 £5.3938
Torfaen 10½pcBds. Red. 26/1/77 £5.3938
Tower Hamlets 10½pcBds. Red. 26/1/77 £5.3938
Treasury Ln 7¼pc 1985-88 3¾pc. 7¼pc 2012-15 3¾pc
Vale of White Horse 10½pcBds. Red. 26/1/77 £5.3938
Wakefield 10½pcBds. Red. 26/1/77 £5.3938
Westminster 12¼pcBds. Red. 26/1/77 £6.5147
Wigan 10½pcBds. Red. 26/1/77 £5.3938
Winchester 12¼pcBds. Red. 26/1/77 £6.5147

THURSDAY, JANUARY 27

COMPANY MEETINGS—
Associated Engineering, Savoy Hotel, W.C. 12
Borthwick (Thomas) and Sons Butchers' Hall, E.C., 12
Brockhouse, West Bromwich, 12
Brown (Matthew), Samlesbury, 12
Dundee and London Investment Trust, Dundee, 12
Proprietors of Hay's Wharf, Gt. Eastern Hotel, E.C., 12
Ranks Hovis McDougall, Purcell Room, S.E., 12
Trafalgar House Investments, 14-20, St. Mary Axe, E.C., 11.30

BOARD MEETINGS—
Finals:
Albion
British Sugar
Edinburgh American Assets Trust
Pleasurama
Saatchi and Saatchi Compton
Smallshaw (R.) (Knitwear)
Throgmorton Trust
Watson and Philip
Interims:
Allen (W. G.) (Tipton)
Cantors
Commercial Bank of Australia
Daejan
Manson Finance Trust
Midland Trust
Radley Fashions and Textiles
Smith (David S.)

DIVIDEND & INTEREST PAYMENTS—
A.N.Z. Group 10 cts.
Bank of Nova Scotia 21½ cts.
Bremner and Co. 1p
Devenish (J. A.) 3.65p
Harris (Philip) 1.3p
Israel Electric £10.10
Petrocon 3.234p
Ransome Hoffman Pollard 2.13p
Rothmans International B Ord. 0.66p
Siemssen Hunter 1.06324p
Southend-on-Sea 5½pc Red. 1977-79 2½pc
Tiger Oats and National Milling Pf. 2½pc
Triplex Foundries 1.4086p
Wolverhampton and Dudley Breweries 3.63574p

FRIDAY, JANUARY 28

COMPANY MEETINGS—
Chemring, Portsmouth, 12
Cooper (Frederick), Wolverhampton, 12
Whatmore, *St. Ermin's Hotel, Caxton Street* S.W., 12
Williams (J.) of Cardiff, Cardiff, 12

BOARD MEETINGS—
Finals:
Allied Textile
Grand Metropolitan
Lookers
Wagon Finance
Interims:
Amalgamated Distilled Products
Brown (John)

DIVIDEND & INTEREST PAYMENTS—
Agricultural Mortgage Corp. 7¼pcBds. Red. 28/1/77 3¼pc
Arenson (A.) 1.2826p
Arton 11½pcBds. Red. 25/1/78 5¼pc
Aylesbury 11½pcBds. Red. 3/8/77 5½pc
Bank of New South Wales 15 cts.
Bell and Sime 0.675p
Bisby 12½pcBds. Red. 26/7/78 6½pc
Blackwood 11½pcBds. Red. 3/8/77 5½pc
Bolsover 11½pcBds. Red. 3/8/77 5½pc
Borthwick (Thomas) 3.8p
Brent 11½pcBds. Red. 3/8/77 5½pc
Brighton 11½pcBds. Red. 3/8/77 5½pc
Broxbourne 11½pcBds. Red. 3/8/77 5½pc
Canadian Imperial Bank of Commerce 35 cts.
Canadian Pacific 46.5 cts. Pt. 3½pc
Chapman and Co. (Balham) 1.478p
Chesterfield Properties 0.7p
Cleethorpes 11½pcBds. Red. 3/8/77 5½pc
Cleveland 11½pcBds. Red. 3/8/77 5½pc
Construction Holdings 5.72p
Coventry 10½pcBds. Red. 27/7/77 5¼pc
Cynon Valley 11½pcBds. Red. 3/8/77 5½pc
Dow Chemical 25 cts.
Dundee and London Investment Trust 1.3p
Dunfermline 11½pcBds. Red. 3/8/77 5½pc
Dyfed 11½pcBds. Red. 3/8/77 5½pc
Ecforo 1.82p
Empress Services 0.1p
Fareham 11½pcBds. Red. 3/8/77 5½pc
Folkes (John) Hefo Ord. and N/V Ord 0.35p
Gateshead 11½pcBds. Red. 3/8/77 5½pc
Glasgow 11½pcBds. Red. 3/8/77 5½pc
Gordon Johnson-Stephens 0.5p
Guildford 11½pcBds. Red 3/8/77 5½pc
Holyrood Rubber 4.52p
Honokong (Selangor) Rubber 0.34p
Hounslow 11½pcBds. Red. 3/8/77 5½pc
Lister and Co. 0.1p
London Asiatic Rubber and Produce 0.4424p
Lyons (J.) 2.037p. 6pcPfd. Ord. 2.25pc
Meyer (Montagu L.) 1.3p
NCR Corp. 18 cts.
Newham 11½pcBds. Red. 3/8/77 5½pc
Norton (W. E.) 0.30579p
Nuneaton 11½pcBds. Red. 3/8/77 5½pc
Ogwr 11½pcBds. Red. 3/8/77 5½pc
Oil and Associated Investment Trust 0.58875p
Oldham 11½pcBds. Red. 3/8/77 5½pc
Ozalid Ln. 3¼pc
Pendle 11½pcBds. Red. 3/8/77 5½pc
Petbow 2.75p
Proprietors of Hay's Wharf 3.137p
Ranks Hovis McDougall 1.74455p
Rossendale 11½pcBds. Red. 3/8/77 5½pc
Rother 11½pcBds. Red. 3/8/77 5½pc
Russell Bros. (Paddington) 0.75p
Samuel (H.) Ord. and A 1.1p. 6pcPf. 2.19p
Scapa 1.9p
Sekers International 0.5p
Shrewsbury and Atcham 11½pcBds. Red. 3/8/77 5½pc
South Oxfordshire 11½pcBds. Red. 3/8/77 5½pc
Strathclyde 11½pcBds. Red. 3/8/77 5½pc
Suffolk 11½pcBds. Red. 3/8/77 5½pc
Toronto Dominion Bank 19 cts.
Valor 0.638p
W.G.I. 1.5p 4.9pcPf. 2.45pc
Wakefield 11½pcBds. Red. 3/8/77 5½pc
Wandsworth 11½pcBds. Red 3/8/77 5½pc
Watford 11½pcBds. Red. 3/8/77 5½pc
West Yorkshire 11½pcBds. Red. 3/8/77 5½pc

SATURDAY, JANUARY 29

DIVIDEND & INTEREST PAYMENTS—
Dykes (J.) 0.65p
Rediffusion Television 5.95pcPf. 2.975pc
Tor Investment Trust Dbt. 2 2¼ and 2½pc

SUNDAY, JANUARY 30

DIVIDEND & INTEREST PAYMENT—
Agricultural Mortgage Corp. 13pcBds. Red. 4/8/78 6½pc

Businessman's Diary

U.K. TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	*British Toy and Hobby Fair (cl. Jan. 27)*	*Nat. Exbn. Centre, B'ham.*
Jan. 31—Feb. 3	Spring Floorcovering Exhibition	Metropole Centre, Brighton
Feb. 6—10	International Spring Fair	Nat. Exbn. Centre, B'ham.
Feb. 6—13	International Furniture Show	Earls Court
Feb. 8—10	Engineering '77 Exhibition	Harrogate
Feb. 8—11	Automated Business Systems and Equip Exbn.	U.S. Trade Center, W.1
Feb. 9—10	Engineering Industries Assoc. Exhibition	Cheltenham
Feb. 13—17	Welsh Gift Fair	Cardiff
Feb. 14—17	Photography at Work Exhibition	Wembley Conf. Centre
Feb. 15—16	Spring Research & Manufacturers Exbn.	Sheffield
Feb. 24—Mar. 6	Boat and Leisure Life Show	Nat. Exbn. Centre, B'ham.
Feb. 28—Mar. 4	International Men's and Boys' Wear Exhibition	Earls Court

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	International Food Industry Exbn. (cl. Jan. 30)	Belgrade
Current	Intnl. Record & Music Publishing Mrkt. (cl. Jan. 27)	Cannes
Current	International Boat Show (cl. Jan. 30)	Dusseldorf
To-day	Intl. Audiovisual & Commnctn. Show (cl. Jan. 30)	Paris
Jan. 28—Feb. 6	International Green Week	Berlin
Jan. 30—Feb. 1	Finnish National Fashion Fair	Helsinki
Feb. 4—7	International Stationery Exhibition	Paris
Feb. 5—9	Int. Confectionery Trade Exbn.	Paris
Feb. 6—13	Int. Earth Moving and Building Mach. Ex.	Verona
Feb. 7—11	Israel Fashion Week	Tel Aviv
Feb. 10—20	International Motor Show	Amsterdam
Feb. 11—20	International Building Exhibition	Brussels
Feb. 11—20	Helsinki Boat Show	Helsinki
Feb. 12—15	Int Textile and Clothing Fair	Ghent
Feb. 12—18	International Toys and Games Exhibition	Paris
Feb. 13—15	International Hardware Fair	Cologne
Feb. 15—17	Personal Communications Exhibition	Las Vegas
Feb. 16—22	*African Fisheries Exbn.*	*Dakar*
Feb. 16—23	International Food Fair	Bruun
Feb. 18—27	Motorcycle Exhibition	Brussels
Feb. 19—25	International Toy Fair	Valencia
Feb. 19—27	Intl. Technical Fair of Textile Machinery	Barcelona
Feb. 22—25	Intl. Leather and Footwear Exhibition	Zagreb
Feb. 24—Mar. 6	International Boat Show	Stockholm
Feb. 27—Mar. 3	International Spring Fair	Frankfurt

BUSINESS AND MANAGEMENT CONFERENCES

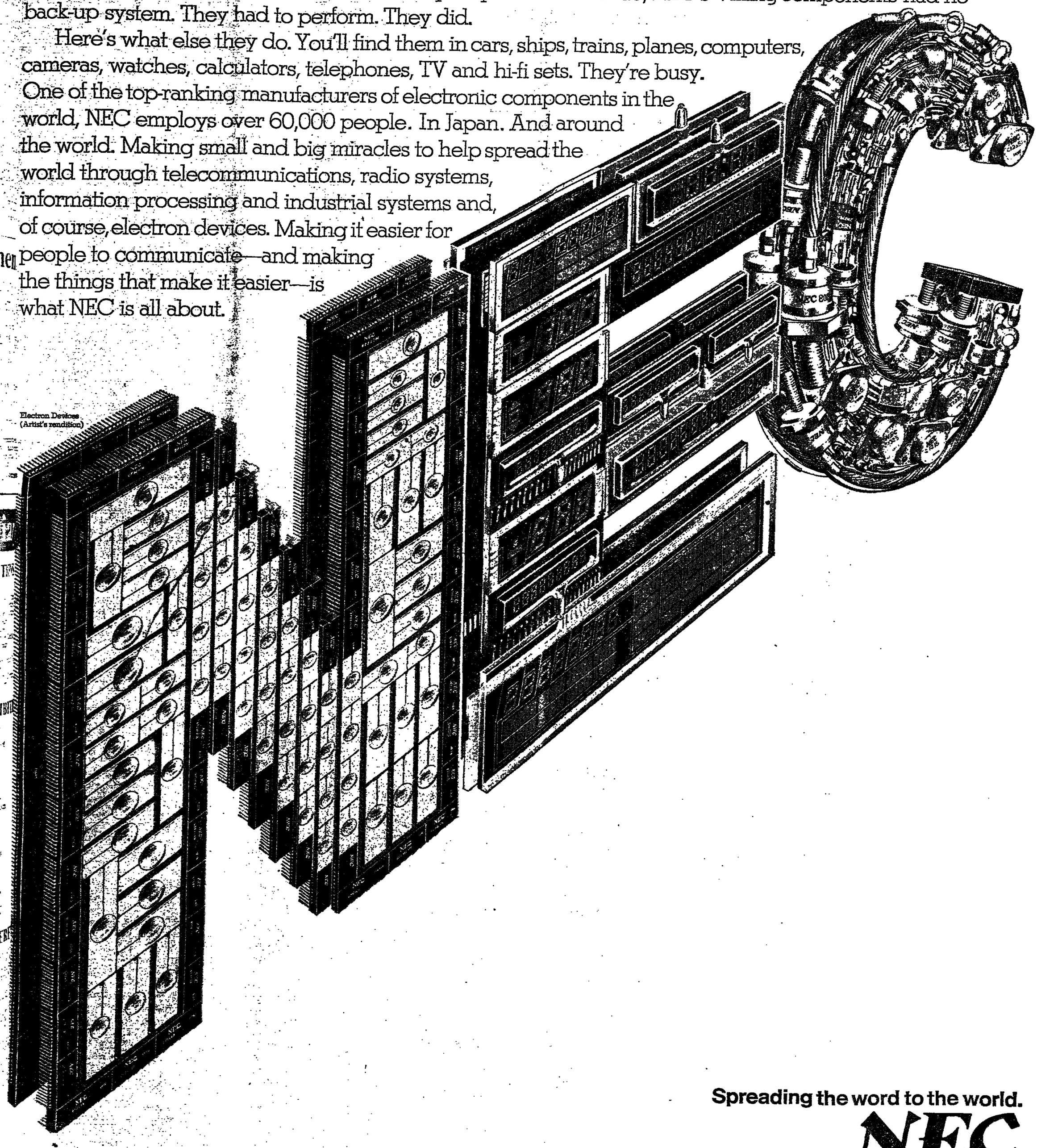
Jan. 25	IEE: Human Reaction to Computer Discipline	Savoy Place, W.C.2
Jan. 25—26	Euro. Study Conf.: The U.S. Patent	Portman Hotel, W.1
Jan. 30—Feb. 4	*Bradford Univ.: Ind. Marketing Management*	*Heaton Mount, Bradford*
Jan. 30—Feb. 11	W D. Scott: Organisation and Methods	Lydiard Park, Wiltshire
Jan. 31—Feb. 11	C.E.I.: Management Development	Geneva
Feb. 1—2	Abraxas: Transactional Analysis	68, Churchway, N.W.1
Feb. 2	I.C.E.: The Chemical Industry and Employees	14, Belgrave Sq., S.W.1
Feb 3	*Interbank Research Org.: Local Authority Finance*	Moor House, E.C.2
Feb 4	ESC: Company Cars and Other Fringe Benefits	Royal Lancaster Hotel, W.2
Feb 4—6	G.K. Tutorial: International Banking Seminar	Post House, W.2
Feb 7—11	Kepner-Tregoe: Decision Making for Senior Man.	Bournemouth
Feb. 7—12	Urwick: Fin. for the Non-Fin. Executive	Slough
Feb. 8—9	The Offshore Centre: Buyers meet Suppliers	Grosvenor House, W.1
Feb. 8—9	Financial Times, Investors Chronicle, The Banker: World Banking in 1977	London Hilton, W.1
Feb. 8—10	Brunel Univ., Manpower Planning	Uxbridge, Middlesex
Feb. 9	Imperial College: Risk Analysis	Exhibition Road, S.W.7
Feb. 10—11	Inst. Materials Handling: Ind. Truck Management	London Hilton, W.1
Feb. 10	WTI: Implications of Floating Exchange Rates	World Trade Centre, E.1
Feb. 14—16	Dunchurch Ind. College: Export Management	Rugby
Feb. 15—16	Conf. Communication: Condition Monitoring	Royal Lancaster Htl., W.2
Feb. 15—16	Assoc. Cert. Acc.: Corporate Planning	Clifton-Ford Hotel, W.1
Feb. 15—16	Oyez: Anti-Trust and Trade Regulation	Inn on the Park, W.1
Feb. 15—17	Keith Shipton: Effective Risk Management	Amsterdam
Feb. 16	Graham & Trotman: Cutting Fuel Costs	Café Royal, W.1
Feb. 17	Henley Centre: Forecasting Systems	Carlton Tower Hotel, S.W.1
Feb. 17	Engineering Inds. Assoc.: Unfair Dismissal	Cafe Royal, W.1
Feb. 17	Scottish Business School: Bullock Report	Glasgow
Feb. 22—23	New York Univ.: Euro-American Commodities	London Hilton, W.1
Feb. 22—23	Trenton: Advertising and Marketing Conf.	Cunard Hotel, W.6
Feb. 23	Concrete Soc.: Middle East Construction	Newcastle
Feb. 23	Interface: General Man. Practical Statistics	Post House, Reading
Feb. 23—24	Financial Times, Investors Chronicle, The Banker: The Future for the Euromarkets	Royal Lancaster Hotel, W.2
Feb. 23—24	Weisweiller Adfos: Exchange Control	*The White House, N.W.1*
Feb. 24	PSL: Overseas Earnings from Outward Licensing	Queen Mary College, E.1
Feb. 24—25	Frank Jefkins: Maximising Press Coverage	Connaught Rooms, W.C.2
Feb. 28—Mar. 1	Financial Times, Institut der Wirtschaftsprufer in Deutschland e V.: European Tax Conference 1977	Munich
Feb. 28—Mar. 4	P-E Cons. Group: Statistical Quality Control	Training Centre, Egham

When it comes to electronic components, NEC has to think small to think big.

The electronic component. NEC's concentration on this small wonder works in a big way. For example, it helps tell Viking what to do on the surface of Mars. That's thinking big.

Thinking small, our tiny microwave devices—low-noise receivers—could weigh no more than 0.2g each. We clocked in at 0.16g. Proven reliable on spaceprobe Pioneer 10, NEC's Viking components had no back-up system. They had to perform. They did.

Here's what else they do. You'll find them in cars, ships, trains, planes, computers, cameras, watches, calculators, telephones, TV and hi-fi sets. They're busy. One of the top-ranking manufacturers of electronic components in the world, NEC employs over 60,000 people. In Japan. And around the world. Making small and big miracles to help spread the world through telecommunications, radio systems, information processing and industrial systems and, of course, electron devices. Making it easier for people to communicate—and making the things that make it easier—is what NEC is all about.



Electron Devices
(Artist's rendition)

Spreading the word to the world.

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Nippon Electric Co., Ltd.
P.O. Box 1, Takanawa, Tokyo, Japan

Main Fields: Telecommunications / Radio Systems / Information Processing & Industrial Systems / Electron Devices / Home Electronics

The Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

● RESEARCH

Glass fibre stronger than steel

METHODS have been demonstrated for the production of very long lengths of thin glass fibres that are stronger than stainless steel wires of the same dimensions.

Bell Labs research staff have shown that the fibres can withstand tractive forces equivalent to better than 600,000 psi before breaking, and accelerated testing has proved that the manufacturing methods developed at Bell result in fibres which retain these high strengths for many years. Previously, only specially prepared glass fibres in relatively flaw-free lengths of an inch or two (rather than a thousand yards) had such high tensile strength and even then, they had to be kept in controlled environments since, when exposed to air or handling, their strength decreased.

Fabrication of the fibre involves the preparation of a rod of high purity synthetic silica by fire-polishing it with an oxy-hydrogen torch to remove surface imperfections such as scratches or bubbles. The rod is then softened in the focus of a laser beam to provide a very clean processing environment.

As the softening proceeds, a continuous length of very fine fibre is drawn from it and this is immediately coated with a protective organic resin. Methods of applying this material and its formulation have been chosen for durability without damage to the underlying surface.

While the development will undoubtedly be of considerable importance to materials scientists and metallurgists, Bell staff indicate that the primary applications area is in modulated light communications cables.

Because of the inherent strength of the fibres, cables made from them would be much more resistant to accidental damage and breaking and would retain these strength characteristics for a long time.

Bell Telephone Laboratories, Mountain Avenue, Murray Hill, New Jersey, 07974, U.S.

● LIGHTWEIGHT STRUCTURES

Spans eight football pitches

COVERING FIVE acres, an exhibition hall believed to be the world's biggest lightweight structure for showground and other sites will be used for the September Offshore Europe 77 exhibition in Aberdeen. It could lead to an export boom in "off the shelf" buildings for an Aberdeen-based construction company.

Orbits Structures, a member of the Aberdeen-based Aberglen Holdings Group, has won the contract to design, manufacture and erect the hall at Bridge of Don, Aberdeen, for exhibition organisers Spearhead Publications.

The patented system uses aluminium arch frames in lattice *sections covered with PVC-coated* polyester woven fabric. Seven acres of fabric will be used to cover the structure which will have 38 miles of aluminium framework.

Announcing the contract in Aberdeen, group chairman Mr. James Milne, said that the design had a range of applications from agriculture to onshore fabrication sites and could also provide accommodation for offices, workshops and warehouses. It could be used in disaster areas to provide immediate shelter for medical teams, emergency supplies and the homeless.

There is to be a rapid development of this range of light structures. Buildings would be available off the shelf and be marketed worldwide, Mr. Milne declared.

More from Aberglen Holdings at Greenbank Road, East Tullos Industrial Estate, Aberdeen, 0224 873821.

Temporary building is sturdy

THE SKELETON of an elliptical 15 x 25 metre building can be erected by two men in six hours and needs no foundation, while being earthquake and cyclone-proof. Depending on the type of fill-in materials used, the remainder of the structure—the skin—would take a further two days or so to set up, again by two men.

The skin could be made of bituminous felt, wood wool slab, thatch, timber etc. and would, at around £4,000, cost the same as the frame. This all makes for a structure costing about £1.30 per square foot protected, weighing around three tons.

Sumaspace is the name given to the structure which is assembled from 36 inclined panels made from 60mm. welded tube with compression sleeve joints. No bolts or nuts are required and strength is provided by horizontally-running steel cables.

BRC-Hightower is an approved manufacturer. Meanwhile, Black and Edginton is involved in the supply of Sumaspace buildings with pvc or canvas skin.

The company reports that it has been holding discussions with Du Pont with a view to a design replacing the steel reinforcement cable with Parafil synthetic cabling which is weight for weight stronger.

Suggested applications are for emergency housing in disaster areas, since the structures can be quickly put up and dismantled by unskilled labour, temporary units on building sites etc.

More from the Sumaspace organisation at Hillbeck House, Roundwell, Bearstead, Maidstone. (0622) 37847.

● PROCESSING

Documents shredded by the ton

BELIEVED TO be the largest machine of its type in Europe, a document shredder capable of handling up to 1 ton/hr is being marketed by Portable Factory Equipment, Smith Street, Hockley, Birmingham B19 3EW (021-554 7241).

Material is shredded to 3 or 6mm wide strips, then automatically baled. The machine, which weighs 2 tons, has a loading opening 50.7 inches wide, and is driven by two 5 hp motors. The maker says it will also handle metal lithoplates, magazines, leather, cartons, foam rubber, felt, cheque books and heavy gauge board, as well as other materials.

● HANDLING

Precision actuator

LOADS UP to several tons can be moved in 99 increments of 0.001 inch, selected by a digital thumbwheel with a pneumatically operated actuator introduced by Purpose Engineers, Duffield Road, Little Eaton, Derby DE2 5DS (0332 831237).

Output from the actuator is via a plunger, which is provided with a micrometer thread for initial setting. Accurate movement, with fast response and repeatability, is claimed.

Operation of the plunger is governed by a control box, housing a pressure gauge and regulator in addition to the control switch. This unit can be sited at a convenient remote position, and additional actuators can be controlled by the same box. Actuators giving movement in various increments, either metric or imperial, are available.

Initial applications have included gap setting in web coating, where material savings have been achieved.

Loader for container trays

A NEW tray loading machine is now incorporated in the Lerner shrinkwrapping system. It loads 3 x 2 and 4 x 3 collations of cans, jars and bottles into Hartmann fibre trays, and a full range of collations, up to a maximum of 6 x 4, into pre-formed carton board or corrugated trays.

Designated the CBL.1, it will handle trays up to 18 x 12 inches and its output is designed to match the 32 packs/minute performance of the company's MS.30 inline wrapper.

Mechanically operated, the loader enables the company to offer a complete shrink packag*ing system designed for heavy* duty cannery/brewery operation.

Details from Lerner Machine Co., Wharf Road, Ponders End, Enfield EN3 4TD (01-804 2794).

● COMPUTERS

Updates memory programmer

THE FIRST commercially available PROM programming units introduced by Data 1/0 in 1972 are not now able to deal with some of the larger memories that have since become available.

To rectify the situation, the organisations that purchased these original models I and II can now take advantage of a kit that enables the performance to be brought in line with modern practice. The actual updating process can either be carried out by Data 1/0 engineers or by the customer himself. It need not all be done at the same time—the owner can choose to improve those aspects that are relevant to him.

Fully updated the machines will program read-only memories up to two kilobytes in size (previously only 512 bytes), will have an interlocking control panel with comprehensive process status information, automatic word count limit detection and improved reliability. More from Data 1/0 (U.K.), 11, Duke Street, High Wycombe, Bucks. (0494 22525).

High level micro language

CURRENTLY, Atkins Computing Services is the only U.K. company offering clients the new Motorola M6800 microprocessor high-level language. Even Motorola is not making the new compiler available on own hardware at present.

This latest software aid is a facility to handle a PL/1-type language known as MPL. Atkins is offering the MPL compiler through its bureau network in both batch and timesharing modes. It makes a valuable addition to the total package of Motorola support software available.

The introduction of a high-level language for the M6800 will have considerable appeal. Previously, M6800 users only had access to a cross assembler and simulator. For the inexperienced, *user assemblers can sometimes* be slow and difficult to apply, whereas a high-level language is much faster to use and more readily understood.

Atkins on Epsom (03727) 40421.

Plots the analogue of any field

PREVIOUSLY concerned mainly with the production of various *kinds of sensitive papers for* chart recording and other purposes. Sensitised Coatings has launched into the equipment field with the announcement of a field plotter working on the resistive paper analogue principle.

*Taking, for example, the deter*mination of temperature gradients through thermal insulation layers at the design stage, the layers are simulated in section by laying down identically shaped pieces of resistive paper and painting on electrically conductive ink at the pipe position and at some external outer boundary. A voltage is applied between the two electrodes and equipotential lines then simulate isotherms.

The technique can also be applied to magnetic, electrical and mechanical (for example, stress) problems.

Model 6000 from the company combines high speed and accuracy in detection of the lines with automatic marking of points as the probe is moved by hand across the paper. An integrated circuit and ultra-high speed *relay combine to detect the null* automatically and produce a small mark on the paper using a discharging capacitor to give a tiny "burn" at the probe tip. More from Redlands, Coulsdon, Surrey (01-668 6156).

● INSTRUMENTS

Gives quick plot of response

RAPID, HIGH resolution frequency plots from a wide range of audio equipment such as equalisers, filters, tape machines and loudspeakers can be made with the UREI 200 automatic plotter available from F. W. O. Bauch.

The instrument consists of a basic mainframe housing a Hewlett Packard high resolution 20-in./sec. chart recorder. A plug-in electronics module provides *comprehensive swept frequency* and signal reception facilities between 20Hz and 20kHz.

Sweep time can be varied from 15 seconds to 20 minutes using a vernier control, or pre-set times of 15, 30, 60 and 120 seconds can be selected by push-button. Calibrated frequencies of 20, 100, 1,000 and 10,000Hz can be selected also by buttons while in the manual mode any frequency in the range can be set.

An interesting feature is a rate sensing control which will slow the sweep rate down if a sharp change in response is de*tected, thus improving the defi*nition at that point. More from 49, Theobald Street, Boreham Wood, Herts, WD6 4RZ (01-953 0091).

Hand-held digital tachometer

WEIGHING ONLY 0.4 kg., and powered by four 1.5 V duty cells, a Swiss designed and built digital hand-held tachometer is being marketed by Radiatron Instruments, Crown Road, Twickenham, Middx. (01-891 1221).

The instrument has an 11 mm. LED display, and can be used for measuring and checking speed, feed and rotational movement in a variety of industries, including engineering, textiles, electronics and paper manufacture.

Accuracy is stated to be ± 1 rpm or ± 0.1 metre/minute over measuring ranges of 0 to 19,999 rpm or 0 to 1,999.9 metres/minute. There is a gating time of 1 second with a stored display.

Among the accessories are a range of centres for different speeds, an 85 mm. shaft extension, and two measuring wheels with circumferences of 100 and 150 mm. The instrument is made by Jaquet AG.

● METALWORKING

Foundry for pump units modernised

SIMON-WARMAN has completed a £750,000 expansion programme at its foundry at Todmorden, Lancs.

Phase three of the expansion involved the installation of two Inductotherm "Trilline" five-ton triple-frequency induction furnaces which have now been commissioned in a new melting shop. Two 10-ton and one five-ton John Smith cranes and a sand reclamation plant have also been installed. The analytical techniques in the foundry's laboratories have been modernised to include computer-controlled optical emission spectrography for rapid analysis of samples.

Phase one of the modernisation of Simon-Warman's foundry (formerly known as the Sandholme Iron Company) started in 1975. An 8,000-square-foot extension to the foundry was built and equipped with a 10-ton John Smith crane, a Fordath mobile sand mixer-filler and cleaning *plant to eliminate the emission* of dust and grit.

Under phase two a new melting shop was built over the existing one.

The enlarged foundry, modern layout and better working conditions have been designed to improve production of Warman pump castings, jobbing work and heavy mouldings in SG and alloy irons up to 10 tons weight. Warman solids handling pumps are supplied throughout the U.K., EEC and Scandinavia, and the foundry's output of castings finds its markets mainly in the engineering industries, power stations, coal and steel industries and cement works.

Simon-Warman is jointly-owned by Simon Engineering, U.K., and Warman International which is a subsidiary of Peko-Wallsend, Australia.

More from the company on 061-428 3600.

● ELECTRONICS

Accurate to two seconds a week

FOR THE professional user and others needing high precision and reliable performance is the 400 series of quartz chronometers and timers put on the market by *Electro Systems and Timing*, 48, Robinson Road, Loudwater, High Wycombe, Bucks HP13 7BJ.

Making use of a low ageing rate low temperature coefficient quartz crystal (3.2768 MHz), the instruments are able to achieve an accuracy of two seconds a week with ambient temperature between 0 and 50 deg. C. reducing to one second a month if the temperature is held to 20 deg. C.

Top model of the range, 403M-6-R has an hours/minutes/seconds plus a timer with the same units. It can operate from the mains or from an internal rechargeable nickel-cadmium battery.

All the models provide security against timing inaccuracies caused by mains-borne interference or mains frequency variations and the display, 0.3 inch high LED seven-bar, is visible in darkness or bright sunlight. More about the instruments, which are made in the U.K., on 049481 4661.

● MATERIALS

Board made more fire-resistant

UNILOCK-TENON International is offering fire-rated partitions with melamine and veneer finishes on a more economical basis, following completion of an extensive development programme.

Until now, a 4 inch (100 mm) construction has been necessary to meet half-hour fire regulations whenever melamine or veneer finishes were specified. Now, following successful testing to B.S.476 Part 8, Unilock can meet 30 minute fire requirements with these finishes with 3 inch (75 mm) constructions. One *hour fire rating can be achieved* with these finishes using the 4 inch (100 mm) Firesound construction.

In both cases, the panels have also been satisfactorily tested to Class 0 for surface spread of flame.

Unilock operates from 176 Vauxhall Bridge Road, London, SW1 V1DX. Further details from 01-828 4651.

CONTRACTS AND TENDERS

LEGAL NOTICES

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Building and Civil Engineering

REFURBISHING

Optimistic outlook

MORE WORK but tougher competition is the forecast for 1977 from John Lelliott, a London-based contractor specialising in renovation and refurbishing work.

Last week, the company announced that it had started this year with £1.3m. worth of orders and was already working on contracts valued at over £2m. A further £600,000 worth of business is expected to be signed up shortly.

John Lelliott says that despite the general gloom surrounding the construction sector, this year could be a good one for his group, which also takes on new commercial and industrial building projects and extension work.

With new building contracts hard to come by, Lelliott believes the outlook for renovation and modernisation work is good, although he admits that competition for the available business has been hotting up as the larger contractors look for work in a market starved of traditional business.

He claims that the bigger operations are taking on work with non-existent margins and while they are certainly making life more competitive—much more work is now going out to tender rather than being negotiated—he does not believe that their interest in his company's type of business will last long.

The contracting side of John Lelliott now has a turnover in excess of £4m., with group turnover double that figure. Since its foundation, the group has steadily diversified and now embraces an electrical contracting company, an international exhibition and shop fitting operation and a company which manufactures machinery for filling aerosol cans. The latest acquisition is a contracting business in Ilford and there are also thoughts about taking heating and ventilating operations into the fold.

Among the contracts lined up for this year is the £450,000 alteration and refurbishment of the Phoenix Assurance building in Telegraph Street, London, E.C.2, and an extension for Boots, valued at £300,000, in the Arndale Centre, Wandsworth. Current work includes a £1m. contract for the Goethe Institute and a £320,000 alteration and refurbishment contract for the Esso Pension Fund in London.

MICHAEL CASSELL

£3m. worth for Wimpey

GEORGE Wimpey has been awarded an extension to an existing housing contract by the City of Aberdeen District Council at The Altens. This is valued at almost £3m. and calls for 302 dwellings.

Wimpey has also won a £831,000 contract from the Bradford and Northern Housing Association for the erection of 109 dwellings, at Clayton, Bradford, and another contract from Brunel University for student accommodation. Value of this is £417,000.

Maisonettes and flats

SCOTT HALE (Contractors) has been awarded a £1.2m. housing contract at Elthorne Road, London, N.19, by the London Borough of Islington.

The project will involve the erection of 42 flats and 30 maisonettes arranged in 4 four-storey blocks and 13 three-storey terraced houses, all in brick crosswall construction with gas-fired central heating. A boiler house and car parking spaces are also to be provided. Work is due to begin soon.

Revamping homes and offices

TWO EXTENSIVE rehabilitation contracts, together valued at almost £1.5m., have been started by the South London Region of John Laing Construction for the London Borough of Lewisham.

Covering several sites in the New Cross, Brockley, Deptford, Forest Hill and Sydenham areas of the borough, the contracts call for the improvement, conversion, reconstruction and repair of some 100 houses. These vary greatly in size and design from big four-storey, double-fronted Victorian dwellings to small, single-family units. The majority of the larger units will be converted to numerous self-contained and fully-fitted flats while smaller houses will be upgraded.

It is anticipated that by the time the contracts are completed by the end of this year there will be more than 160 revitalised dwellings of all sizes.

Meanwhile Laing has placed a £688,000 contract with Barrett and Wright for the refurbishing of offices at Dixon House, Fenchurch Street, London.

The latter company also has been awarded a contract by Trollope and Colls for mechanical services worth £173,000 in refurbished offices at 66 Cannon Street, London, E.C.4.

Home on a North Sea platform

WEIGHING 400 tons, an accommodation module is to be built by William Press Production Systems for Shell/Esso's Cormorant "A" platform.

Shell (U.K.) Exploration and Production, operators for the consortium, awarded WPPS the contract for the "additional living quarters" worth just under £1m. Construction is about to start and load-out is planned for the summer.

Preparing the way

A LARGE-SCALE soil survey along an 11 km section of the proposed London Outer Orbital Route — between Micklefield Green and South Mimms—is being undertaken by the Soil Mechanics Department of Cementation Ground Engineering with the aid of four shell and auger drilling rigs.

Structures along this proposed motorway include a large interchange at the eastern end of the route where the M25 is scheduled to intersect the existing A1 trunk road. Overall, it is anticipated that about 16 bridges will be constructed.

Big weather forecasting centre

IT HAS been announced by the Property Services Agency that John Laing is to build the European Centre for Medium Range Weather Forecasting at Shinfield Park, Reading. Value of the contract is nearly £2m.

The centre will have a computer hall, administration building, conference and teaching accommodation. On completion in November, 1978, it will house 100 staff employed by 16 member nations who are at present temporarily housed at Bracknell, Berks.

The computer hall and supporting work spaces will total about 2,000 square metres. This block is to be steel-framed with walls in facing bricks and double-glazed windows and a steel decked roof, finished with insulation and asphalt.

The administration building will include the director's suite, library, offices and boiler house. This building is designed in reinforced concrete frame, floors and roof, and will be covered externally with horizontal bands of facing brickwork and aluminium windows. The conference block will be concrete frame, finished externally with facing bricks and aluminium windows.

SEVERN BARRAGE

Rising tide of interest

PROPOSALS that a major study group be empowered to embark on an official appraisal of a pumped storage and tidal power scheme in the Severn Estuary have been put before the Select Committee on Science and Technology.

It is suggested that the study should take the concept of a Severn Barrage from its current state of "known feasibility and probably desirability" to the stage where it would become a "defined project option" which the Government could consider as part of its energy strategy.

The proposals have been made by a consortium which has called itself the Severn Barrage Group. Its members are: David Mappin (Offshore) Managements, Sir Robert McAlpine and Sons, Y-ARD, Charles Haswell and Partners, Roxburgh Dinardo and Partners, National Engineering Laboratory, Martin and Voorhees Associates and Dr. T. L. Shaw of Bristol University.

The group estimates that the cost of the barrage would be about £2,500m. This cost would be for a barrage across the Severn between Cardiff and Weston-super-Mare which would be used in a two-basin system, the main basin discharging through turbines to the sea at low tide and the other being filled through turbines from the sea at high tide. This would offer a power supply capability of 4,000 MW.

A preliminary study has indicated that concrete caisson units for the deeper sections of the barrier could be constructed and that they would in all probability be much less costly than a rock or earth dam.

Experience with North Sea structures weighing up to 350,000 tons had shown that horizontal forces of the order of 30,000 tons in a hostile environment could be handled but were not at all likely in the Severn. Use of concrete caissons would present no new civil engineering problem and estimates of the cost could be made with confidence, says the Group.

The consortium suggests that if it is resolved that a Severn Barrage should form part of the U.K.'s energy sources in the 1990's, then a full project study must be started soon. It is estimated that such a task would take 18 months to complete and cost about £1.2m.

The study would take economic, technical, industrial and environmental factors into account and in its findings would present a professional opinion on one or more schemes, each offering a specified electrical performance.

Proposals by the Severn Barrage Group come soon after the announcement of the formation of another body with similar interests. This is known as the Tidal Energy Engineering Group (TEEG) and is led by Engineering and Power Development Consultants. Associated with this Group's work is the Civil Engineering Department of the University of Salford, Sir William Halcrow and Partners and a group studying tidal power at Bristol University.

At the time of the announcement (last November) it was stated that TEEG had the ability to manage and co-ordinate the many disciplines required for tidal energy development, initially in the U.K., with special reference to the Severn Estuary.

Variety of work to FPA Finnegan

WORTH WELL over £1m. new contracts ranging in size from four factory units to the rebuilding of two houses severely damaged by fire, have been awarded to FPA Finnegan, main building subsidiary of the FPA Construction Group.

The four factory units are to be built on two sites at Grimsby for the Tyneside-based English Industrial Estates Corporation.

Another of the larger contracts is for the construction of 54 flats in three storeys at Coggan Close, York. The contract has been awarded by Church Army Housing.

At Sheffield the company starts work this month on the construction of a health centre at Duke Street for Sheffield Area Health Authority.

Other contracts awarded include the refurbishment of a group of 17 houses on Merseyside for Willaston Borough Council and ten more for Wirral Borough Council, the rebuilding of two fire damaged houses for Northampton Development Corporation at Thornlands, and the construction of new roadworks for Wakefield Metropolitan District Council.

Telephone kiosk keeps out noise

IN EXTREMELY noisy locations, such as steel mills, foundries, print rooms and aircraft maintenance areas, telephone messages can be misunderstood.

To solve this problem, a sound-proofed telephone kiosk which completely encloses the telephone and its user, has been launched by Burgess Architectural Products, Hinckley, Leicester LE10 2LN (0455 37701).

With an outer and inner skin of mild steel sheet, enclosing a sound absorbing pack, the walls of the unit are 3 inches thick. The door incorporates a small double glazed window.

Underwater structures inspection

CIRIA'S underwater Engineering Group (UEG) has announced the start of a new research project entitled "Underwater Inspection of Offshore Installations: Guidance for Designers."

A contract for the project has been awarded to C & JB, underwater engineering consultants with considerable experience in this type of work, and the project is due for completion in mid-1977.

The objectives of the project are to give advice to the designers of marine structures aimed at easing the task of the underwater inspector, to review and describe the methods of underwater structural inspection currently being used in the North Sea, and to give advice to the designers of marine structures to ensure maximum durability of these constructions.

The results of the project will be of benefit to owners, designers, certifying authorities, diving and inspection companies in membership with the UEG and to the Government. The Department of Energy is participating in the work and contributing towards its cost.

A steering group of experienced UEG members has been formed to assist in the work. The chairman is T. A. Lamplough, of Lloyds Register of Shipping.

Further details from CIRIA, 6 Storey's Gate, London S.W.1. (01-930 7447).

Lancashire rentals scheme

CENTRAL Lancashire Development Corporation has a further housing for rent scheme in Astley Park Village. It is known as Site D2 and is situated on Chancery Road. A total of 106 dwellings will be built of which 30 are in semi-detached form.

The whole scheme valued at over £1m. is of traditional brick and tile construction in two storey form, and is grouped in seven separate courts the interior of each being attractively paved and landscaped. Footpath links will connect the site to both the new village centre and Astley Park.

Less risk of damage

CONCRETE safety barriers produced by Redland Precast have been installed at the Bricklayers Arms intersection of the A2 in Southwark, south-east London.

The barriers have been designed to deflect vehicles from either side and it is claimed that less damage is done to a vehicle —and the barrier itself—when there is a collision. Steel guard rails were found to be in frequent need of repair as a result of traffic accidents.

Ninety pre-cast units each 1 metre long, 1 metre high and weighing 0.9 tonnes were used to make up the 91-metre barrier.

IN BRIEF

● A £100,000 export order for fireproof linen and waste disposal chute systems for Saudi Arabia has gone to Percy Lane Group through its Luton-based subsidiary, Hardall from West German contractor, Polensky and Züllner of Dortmund.

● Two water treatment contracts worth about £40,000 in Africa and the Middle East have been awarded to Aquastat. Reverse osmosis, filtration and scale prevention equipment are being supplied for Qatar. A portable water plant, made and supplied in four weeks, has been designed for Costain's site services during the building of a paper mill in the Cameroons.

● A £1.5m. system housing redevelopment scheme on Merseyside is being carried out by Holland Hannen and Cubitts (Northern). The company is also starting a £1m. housing job at Crosby for Sefton Council.

● Phase IV of Central Lancashire Development Corporation's advance standard factory programme at the 250 acre Walton Summit Employment Area has gone to Rush and Tompkins. Worth nearly £700,000 the contract is for over 90,000 square feet of floor space, comprising six units.

● The transport planning consultants, RPT Economic Studies Group, have opened an office at 11-12, Newton Terrace, Glasgow. Headed by Mr. Crawford Paterson this office will be involved in projects overseas as well as in Scotland. The Group specialises in long-term development planning in the transportation sector and has previously worked in the Middle East, West Africa, Australia and Brazil.

LABOUR NEWS

Leyland fringe benefits plan faces rejection

BY ROY ROGERS, LABOUR CORRESPONDENT

LEYLAND CARS' ambitious plans for improving and harmonising fringe benefits to pave the way for further rationalisation of its manual workers' pay structure are facing a major setback.

This week, the company's 90,000 manual workers are due to complete consideration of the controversial package negotiated by management and a team of leading shop stewards. There seems little doubt that it will be rejected.

It is understood that workers at the huge Longbridge plant in Birmingham have come out narrowly against the plans while those at Triumph, Speke, Jaguar's Redford plant in Coventry and at three small factories in the Cowley, Oxford, complex have voted overwhelmingly against.

Other Leyland workers, including most of those at Cowley, will be voting over the next few days.

Majority unlikely

Originally Leyland management warned that workers at all U.K. plants would have to accept the proposals before they could be implemented. Now the company says that an overall majority among the 90,000 manual workers would be sufficient.

Such a majority, however, looks very unlikely.

The proposed deal was negotiated by an ad hoc committee comprising senior management and about two dozen leading shop stewards from the top tier of Leyland's worker participation machinery.

Although they expected considerable shop floor opposition to the plan, the negotiators did not anticipate such a groundswell of reaction against the package. It offers common sick pay arrangements and greatly improved lay-off pay and holds out the prospect of additional pay increases for Leyland workers in November.

Some of the opposition is centred on the plan for a common November pay date which they see as a move towards Ford-style centralised pay bargaining. Most of it, however, is directed against the penalty clauses which are broadly similar to controversial proposals pioneered by Ford in 1969.

Court action

Under Leyland's plans, individual workers stand to lose their entitlement to a whole quarter's lay-off benefit — 15 days at full basic pay — if they take part in any unconstitutional industrial action which lasts for half a shift or totals eight hours in all.

Ford's 1969 attempt to "buy out" unofficial strikes by disqualifying individual workers from lay-off benefit for six months if they were involved in industrial action in breach of the company's disputes procedure led to a month-long strike, High Court action and the resignation of several top union negotiators.

It also led to a complete revamping of Ford's union negotiating and paved the way for the Transport and General Workers' Union and the Amalgamated Union of Engineering Workers to dominate future negotiations. It had been these two unions which opposed the deal recommended by a majority of the union negotiators.

Holiday bonus

Ford lost production worth some £40m. but did succeed in getting a watered-down version of its penalty scheme included in the eventual settlement.

The penalty clause, which reduced holiday bonus payments at plants where unofficial industrial action occurred, was eventually dropped as part of the 1974 pay agreement.

There is an important difference between Ford's past efforts and Leyland's current one. Whereas the Ford deal was negotiated by full-time national union officials who were clearly out of touch with shop-floor feeling, the Leyland proposals have been negotiated and agreed by leading shop stewards — much to the disgust of full-time officials, who have had to remain on the sidelines.

These Leyland shop stewards will be meeting the management again possibly later this week, to analyse the results of the shop-floor meetings on the proposals.

They will then have to decide whether the voting justifies implementation or re-negotiation or whether the plans should be abandoned entirely.

New call for wage restraint

By Christian Tyler, Labour Staff

ANOTHER year of pay policy, combining a percentage wage rise norm with income tax cuts but with the adition of a "flexibility allowance," is called for to-day by the British Institute of Management.

The institute's recipe for wage restraint after the end of July this year is contained in a letter from Sir Derek Ezra, its chairman, to Mr. Denis Healey, Chancellor of the Exquer.

Sir Derek says the percent-take ceiling should apply to bargaining units and "common interest groups," not, as now, to individuals. Flexibility should be included to allow companies to make some adjustments to pay relativities.

There could be a "phased and controlled approach" to sorting out some of the anomalies caused by introduction of the £6 limit on August 1, 1975.

Special attention should also be given to allowing self-financing efficiency deals, provided the money was not paid until the productivity improvement had become visible.

Sir Derek, better known as the chairman of the National Coal Board, also sugests that the present exemption of well-established incremental salary scales (applying to many public sector white-collar workers) should be widened to permit discretionary merit payments as well.

He lays particular stress on the need to restore incentives for managers—those with technical and professional skills, and for those with responsibility.

He asks for the Institute to be included in the consultations on incomes policy. These will be getting under way in earnest next Tuesday when the Chancellor and Treasury officials are due to meet leaders of the TUC.

Danger of lay-offs increases

By Arthur Smith, Midlands Correspondent

THE RISK of lay-offs by Leyland Cars will increase this week as car delivery drivers continue to picket the Solihull, Canley and Longbridge plants. Finished cars are building up at the Rover and Triumph factories where despatch has been halted by the dispute for two weeks.

The 270 employees of James Car Delivery are protesting at Leyland plans to allow other delivery firms to collect vehicles from the Solihull plant.

On the move

A TOTAL of 513,448 passengers landed or embarked at Felixstowe last year, the port's first full year in passenger business with both the Continent and Scandinavia.

Talks aim to raise output of 120,000 car workers

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

THE DATE has been fixed for the first stage of the agreed Government—Trade Union—Management initiative to raise productivity in the car industry.

On February 11, Mr. Eric Varley, Industry Secretary, Mr. Jack Jones, of the Transport Workers' Union, and Mr. Hugh Scanlon, of the Engineers, will hold discussions with senior management and workers representing the 120,000 employees of Leyland Cars. Other meetings will be arranged at Chrysler, Ford and Vauxhall.

The initiative is designed to increase awareness on factory floors of steps which must be taken to improve output.

Considerable progress in analysing the challenge which faces the British industry has been made by the top-level tripartite committee set up by Mr. Varley. The managing directors of the four major car companies have met Mr. Jones, Mr. Scanlon and senior civil servants to discuss ways of raising productivity.

The Central Policy Review Staff said some 275,000 jobs could be lost by 1985.

According to the "Think Tank" report, a British car assembly worker produces only half as much per shift as his Continental counterpart. New investment would not bridge the gap without changed attitudes by management and labour.

The Leyland Cars talks will be at the Longbridge plant, Birmingham. Up to 500 senior stewards and managers from factories throughout the company are expected to attend.

Call for new health links

By Our Labour Staff

REGIONAL HEALTH authorities should be abolished and direct links forged between the Department of Health and area health authorities, a Civil Service union spokesman contends to-day.

The Society of Civil and Public Servants, which represent health administrators, says in evidence to the Royal Commission on the National Health Service that the NHS structure is both inefficient and undemocratic.

ENTERTAINMENT GUIDE

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The Executive's and Office World

EDITED BY JOHN ELLIOTT

RECRUITMENT PRACTICE

Question mark over State agency

BY SUE CAMERON

The Government's Professional and Executive Recruitment service, re-vamped three years ago, has been attacked by MPs and private employment agencies for giving a down market service at a high cost. However, PER managers claim they are very competitive.

THE state-owned professional and executive recruitment service — the PER — has been severely criticised in recent months for failing to meet either its budget or its customers' requirements.

Yet it was only three years ago that the old professional and executive register was rescued from its unbusiness-like oblivion and given a complete restyling. It was renamed Professional and Executive Recruitment, placed on a commercial, fee charging basis, and moved into smart, modern offices. The aim of this revamping operation was to gain a larger share of the employment market while reducing the cost of the service to the taxpayer.

But now official demands are being made for the PER to be completely dismantled as a separate service. The House of Commons committee of public accounts brought out a report last year which called for the service to be amalgamated with the Government's more down-market jobcentres.

Members of the committee said in their report that the PER found posts for only a tiny percentage of the jobseekers on its books. They expressed a strong suspicion that it was dealing mainly with low grade executive positions which carried comparatively small salaries. They added that although its managers insisted that the service needed prestige offices to impress employers and jobseekers alike, most of its business was actually conducted through the post or over the phone.

Competing

The report concluded by noting that the PER was competing with commercial recruiting methods and seemed "unlikely ever to achieve more than a marginal share" of a highly competitive market. In the light of all this, the committee urged the Department of Employment to "reconsider urgently the justification for the service in its present form."

The committee's report was warmly welcomed by the private employment agencies who are currently conducting a determined campaign against public sector job finding in all its forms. The Federation of Personnel Services, which represents nearly all the big private agencies, brought out a document of its own entitled A Case of Public Waste. This elaborated on some of the criticisms made by the committee of public accounts and added that the PER was running a deficit of nearly £2m.—at the taxpayer's expense.

Nor do large companies appear to have been unduly impressed with the service provided by the PER. Personnel directors who have used it to fill some of their executive vacancies tend to rate it as "no more than adequate" or "passable but not brilliant."

University careers officers whose students have registered with it say that it seems to have little to offer to graduates. Their main complaint is that the jobs on its books are too low grade for people of degree standard—even allowing for the fact that to-day's graduates have to be prepared to lower their sights because of the present state of the employment market.

Yet the PER claims that it handles 25 per cent. of all the professional and executive posts that fall vacant every year. It has 35 offices scattered over the country and it deals with 200,000 jobseekers annually. It uses a computer to match people to vacancies, although it places only 7,500 individuals each year, which is less than 4 per cent. of those who register with it.

Employers are charged a maximum fee of 10 per cent. of the first year's salary, although there are a number of discount schemes. This year it is estimated that the PER will earn £2.5m. from fees and cover nearly 90 per cent. of its commercial costs. At present it receives £4.6m. a year from public funds but £1.6m. of this is spent on what can loosely be termed social work. The Federation of Personnel Services has included this £1.6m. in its assessment of the PER's trading losses as nearly £2m. If it is treated separately, then the PER's true deficit is about £500,000.

At the moment only 30 per cent. of the clients on the PER's books are employed people trying to change their jobs. The rest are unemployed and many of them are likely to remain so for a considerable time. It is chiefly this group which benefits from the welfare work of the PER. Some are sent on courses designed to help them present themselves well to prospective employers although the PER staff admit that few of them actually obtain jobs as a result. But it is claimed that the courses, which cost several hundred pounds, boost morale and help individuals to come to terms with the prospect of long term unemployment.

Managers at the PER point out that some of the jobless executives on the books have been paying taxes for years and therefore deserve help from the State now that they have become victims of the economic squeeze.

But while everyone—including the private agencies—would agree that the provision of practical help for the unemployed is a legitimate use of public funds, critics might argue that it is wasteful and unwise to cushion the lame ducks of the recession against reality by giving them false hopes of obtaining work.

Those who run the PER say that the money spent on social welfare work averages out at about £8 per client. They also point out that they undertake a fairly wide range of social functions. They have to liaise with social security offices over the payment of benefits and they also recruit people for various government training schemes. Altogether about 300 of the 500 staff members are working on the social side and only 200 concentrate solely on straightforward job placements.

The average cost of job placements at the PER is £360 per person. This is lower than placement costs in the private sector which fall into the £400 to £500 range. But although a comparison of costs suggests that the state recruitment service is offering the taxpayer value for money, it must be borne in mind that its operational methods are quite different from those of the private agencies.

The private agencies interview all their clients in depth while the PER gives initial interviews to only 20 per cent. of the jobseekers on its books—a point that was stressed in the House of Commons committee report. This probably accounts for the higher placement costs of the private sector. It also suggests that the private agencies offer a service which is both more thorough and more personalised.

Consultants in the private agencies interview employers at some length so as to obtain exact job specifications and find out what sort of personality is needed in a particular organisation. They then interview a substantial number of jobseekers before drawing up a short list of candidates to present to the company with the vacancy. People on the short list are often interviewed twice by agency consultants and the whole process is often extremely lengthy, especially when a senior post carrying a salary of £10,000 a year or more is involved.

Placements

Staff at the PER will also interview job-seekers and draw up a short list of candidates for an employer but this is not part of their normal routine and they charge extra for doing it. The bulk of their placements is made through the computer, with staff merely checking on details and arranging interviews between companies and clients.

The system can work well where junior posts are concerned but it is not necessarily a satisfactory way of filling top jobs because a computer cannot judge such vital things as temperament and attitudes. Most companies do not even rely on an experienced recruitment consultant to sift through applications for their senior posts—let alone a computer.

A survey carried out by the PER itself showed that 50 per cent. of all employers still use Press advertisements to fill executive vacancies while a further 25 per cent. recruit top people through personal contacts and recommendations. The public and private sector employment agencies therefore have only a 20 per cent. share of the executive recruitment market between them. And this raises the whole question of whether or not the State should be in the executive recruitment business at all when the demand for employment agencies of any sort at this end of the market is so limited.

The survey found that the PER had 8 per cent. of the professional and executive recruitment market while all the private agencies combined had only 12 per cent. But although the PER has gained an edge over its rivals it can be argued that it needs to do far more than this in order to justify its continued existence.

One of the major criticisms of the PER is that it does not deal with middle or top ranking executive posts at all. The private sector is particularly insistent about this point and the Federation of Personnel Services claims that the PER is "a predominantly secretarial, clerical or at best junior management referral system." Members of the public accounts committee said in their report that they too suspected that the salary range of most placings was "low."

Managers at PER say they deal with people of graduate level and above and they estimate that the average salary of the clients they place is £3,800 a year. Yet if the average salary is £3,800, they must handle a number of vacancies that carry considerably lower pay.

This suggests that there is a good deal of substance to claims that the PER is not dealing exclusively with the professional and executive end of the market. It also provides a strong argument for reconsidering its role within the state employment service.

If it were amalgamated with the other Government jobcentres as suggested by the committee of public accounts, it is possible that considerable savings could be made on both property and staffing costs. The jobcentres carry out much the same social functions as PER and while the two parts of the service remain physically separated it is likely that there is some duplication of effort.

Solve problem

Amalgamation could also solve the problem of the lower level vacancies handled by the PER because these could be hived off to the jobcentres' highly successful self service notice boards where they properly belong. This might be fairer to both employers and job-seekers who might well be given artificially high expectations of the PER under the present system.

There is no real reason why customers should receive a lower standard of service from the PER if it were amalgamated with the jobcentres which already have facilities for specialist interviewing services.

Perhaps the PER's own publicity machine has concentrated too much on a comparison with private sector rivals rather than on the role of the professional and executive recruitment service within the employment market as a whole.

EXECUTIVE HEALTH

Not just the elderly

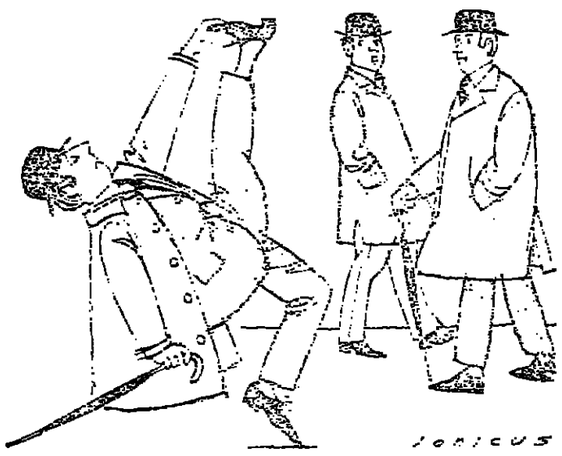
BY DR. DAVID CARRICK

SOME YEARS ago I was asked what seemed to be an agricultural question by the gnarled and antique gardener who "did" for a home in which I was staying in feudal Essex. "Do you 'ave a look at me own haricos, Sir," he croaked, "You bein' a doctor and all?"

Staring irritably at the old man who had spoiled a lazy reverie, I said that my knowledge of beans was limited.

This time it was his turn to gaze in a way that made it plain that he had no doubts that I was limited in other respects, but he persisted, adding: "No I don't rereckon: but my owd leg, that's cruel vaserlated." And, to prove the point, he laboriously rolled up a gaiter and two pairs of long johns to reveal a large varicose ulcer which he said was "painin' somethin' comical."

Despite my distaste for matters medical when off duty, I was entertained by the lilt of a dying language and impressed by the old man's lack of vanity in admitting to varicose veins because, in my experience, many patients are quite put out at such a diagnosis as they mistakenly believe the disorder to be confined to the elderly.



... simply by raising the leg above the head ...

Hereditary

In fact, the condition can occur at any age after 20, particularly in the obese and those with a hereditary tendency. It is not the fault of the veins themselves but of their valves. Whereas the heart pumps blood through the arteries, the venous return depends largely on muscular contractions pushing the blood back to the heart. Every few inches, non-return valves operate to stop it falling back again. If these valves break down, not only is the blood return impeded, pressure due to gravity builds up and the veins dilate.

Eventually the pressure is sufficient to cause fluid to flow out of the walls of the veins so that the legs become swollen. Soon the resulting constriction is sufficient to interfere with arterial supply so the tissues are famished of oxygen and a build-up of waste-products occurs. If matters are left to deteriorate, the sufferer experiences intense itching which, in the words of a famous man, is "pain laid on thin," as well as aching at the end of a period of standing. Anyone who says he can avoid scratching is abnormal or untruthful, and the evidence is shown by raw eczematous areas which may develop into ulcers.

Many ointments and other products for treating the latter are advertised, but they are about as useful as painting a water-pipe which has been blocked by fur. Unless the arteries are permitted to supply oxygen and the veins to remove waste-products, there is no chance of healing the ulcers.

Other complications of varicose veins are inflammation of the veins (phlebitis) and clot formation. If by mischance a varicose vein is ruptured, bleeding is severe but can be stopped by simply raising the leg above the head.

Successful

Various operative procedures are often successful in eradicating varicose veins, but a far simpler method is to use Tubigrip bandages which are slipped over the leg before the sufferer gets out of bed in the morning. The elastic in the "stockings" simply replaces the work of the valves and permits normal circulation.

Unfortunately they are not glamorous, but even women who suffer from varicose veins with all the complications must put up with that sartorial disadvantage in order to feel and, indeed, be in better health and their circulatory systems are on "go"—and, in this wintry weather, they are beautifully warm and comfortable.

Consultants abroad

MEMBERS OF the Management Consultants Association are rapidly expanding the proportion of business they do overseas, according to Mr. Michael Hicks-Beach, the newly elected chairman of the association.

Mr. Hicks-Beach said that member consultancies had earned 32 per cent. of their revenue from overseas work in 1975 and he expected that the proportion would prove to be over 40 per cent. in 1976.

Mr. Hicks-Beach, commenting on taking up his appointment on the association's prospects at the beginning of 1977, reported an increased demand for consultants' services at home in the second half of 1976 but he said that the public and private sectors in the U.K. could have usefully employed association members to a far greater extent than they had done over the last few years.

Mr. Hicks-Beach is chairman of P-E Consulting Group and managing director of P-E International Operations. The association's new vice-chairman is Mr. Cyril Brown, managing partner of Annan Impey Morrish.

Trends in catering costs

MORE OFFICE workers buy a meal or cooked snack from a company canteen than any other category of worker, according to the latest Industrial Society survey of catering. The proportion is one in every two, whereas the general average is four out of every ten.

The survey shows that in the past year employees have had to bear price increases on food and beverages of between 25 and 60 per cent., but that profit registered by companies on sales was 4 per cent. down on the year before.

More than 150 companies provided statistical information for the survey—the 21st produced by the society—and all types of industries are represented. There are additional sections this year dealing with office catering and salary and wage rates paid to catering employees.

The survey shows that more than one-third of companies subsidise food and beverage sales, in some cases by more than 40 per cent., and that the financial contribution by companies to catering facilities has doubled in some areas, with the general increase being 60 per cent.

The average rise in the year of cost of labour was 16 per cent., although in some instances it was as much as 37 per cent. Catering productivity, however, has dropped — for example, in the South the fall was 19 per cent.

The survey is available from the Publicity Department of the Industrial Society, Robert Hyde House, 48 Bryanston Square, London, W.1. Price £6.

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MONDAY, JANUARY 24, 1977

The right job for the NEB

TO JUDGE from last Friday's debate in the House of Commons, the National Enterprise Board in its present form finds little favour either with the Left of the Labour Party or with the Conservatives. The dissatisfaction on the Left is not surprising. The objectives given to the NEB were designed to placate the different factions of the Party and on some of them, notably extending public ownership into profitable manufacturing industry, little has been done. Lord Ryder and his colleagues have used their wide-ranging powers cautiously, rather more cautiously, so far, than their predecessors at the Industrial Reorganisation Corporation. Apart from monitoring the big companies like British Leyland and Rolls-Royce, the NEB has made a number of investments in small firms. Some of these investments may be criticised — in one or two cases there was no need for Government finance — but they hardly represent the commanding heights of manufacturing industry.

Reluctance

At the same time, it should be noted, the Department of Industry is continuing to act on its own account under the Industry Act 1972, providing loans and in some cases equity finance for companies in trouble. There seems to be some reluctance on the Department's part to use Section 3 of the Industry Act 1975, whereby it can request the NEB to assist a company in financial difficulties and later reimburse the Board for its involvement. Thus there are two sets of people in Whitehall making entrepreneurial decisions about which companies should be backed with taxpayers' money and on what terms. Fortunately the restrictions on public expenditure should mean that the amounts of money available for them to play with will be kept small.

Given the fact that the NEB exists, the right policy for it to pursue is to be extremely sparing in making new investments and to concentrate its resources on the big problems like British Leyland and Alfred Herbert, where an improvement in performance will be of real value to the economy. The more small investments the NEB makes, the more people it will need to supervise them and the greater the likelihood of mistakes. If it is true that there is a financing gap for companies which need new equity capital of around £1m. or so, the NEB should work with the City in seeing how the gap could be filled from commercial sources; Equity Capital for Industry, with most of its senior executives now installed, could be one of these sources.

As for the Tories, the commitment to abolish the National Enterprise Board as soon as they return to office makes little sense. There are aspects of the NEB which are objectionable; for example, it should be under an obligation to sell off its investments as soon as conditions are favourable and to provide finance only in cases where money is not available from the market. But the fact is that there are a number of Government investments in manufacturing industry which will not be returned to the private sector for a considerable period; there is a possibility, to put it no higher, that the portfolio will be added to under a Tory Government.

Someone has to look after these investments. That job is best handled by an agency which is separate from a Government department.

Apparatus

A Conservative Government will need to look at the whole apparatus of intervention which has been created as a result of the Industry Act of 1972 and the later legislation of 1975. Both the power to intervene in industry and the number of people engaged in intervention, mainly within the Department of Industry, should be substantially cut back. But some people will still be needed, if only to deal with the consequences of past intervention. The appropriate machinery for handling these tasks should be decided on practical, not political, grounds.

A crumbling alliance besieges Paris

FRANCE'S GOVERNING coalition of Gaullists and supporters of President Valéry Giscard d'Estaing has never been a happy one. Most Gaullists, who consider themselves the natural ruling party of France, resent having to work with a man they regard as a flabby liberal, while the President would prefer, if it were possible, to govern from the centre without Gaullist support. Gaullists and Giscardiens have widely differing views not only on foreign and domestic policies but also on the tactics that should be adopted to hold off the challenge from the Socialist-Communist union of the Left in the two key elections the Government faces in the coming months—municipal elections in March and Parliamentary elections next year.

Surprise

Differences of electoral strategy were a key factor behind the resignation of M. Jacques Chirac from the Premiership last August. The Gaullist M. Chirac wanted the Government to take a much tougher stand against the Left and advance the date of the Parliamentary elections. The President believed, and still believes, that given time, his plans for an "advanced liberal society" would eventually rally the voters to the Government. Since then, the gap between the two men and their supporters has widened to such an extent that as the March elections approach they are looking more like open adversaries than coalition partners, and last week's surprise decision by M. Chirac to run for Mayor of Paris in March is being widely interpreted as a deliberate slap in the face for the President, who had earlier pledged his support to M. Michel d'Ornano, the Giscardien Minister of Industry and official Government candidate.

M. Chirac's decision is the climax to weeks of feuding between the two factions over the Paris elections, with both sides accusing each other of splitting the coalition. The Gaullists, with some justification, are accusing the President of deliberately trying to undermine their power base in Paris by running heavyweight Giscardien Ministers against Gaullist incumbents on the City Council. The Giscardiens reply that this is the fault of the Gaullists for failing to agree on joint candidates when they were first consulted. The argument is all the more bitter, as for the first time in over 100 years the Mayor of Paris, who is to be elected in March, will have real powers to govern the City.

In deciding to put himself forward, M. Chirac must be confident that he will win—certainly the Guallists are traditionally strong in the capital. As Mayor he would then be firmly established in the limelight during the crucial period between March and next year's Parliamentary elections. The momentum of his revitalised Gaullist Party, the PPR, launched with such fanfare last month, would be maintained. That much is clear. What is less clear is the advantage that M. Chirac sees in provoking so open a split in the Government's ranks.

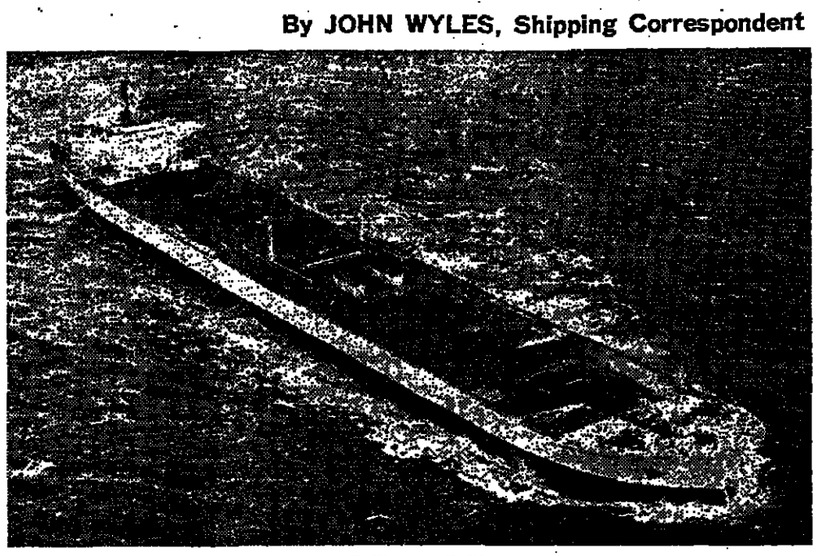
Spearhead

There are those who believe that M. Chirac is actually hoping for the destruction of the centre and a left-wing victory next year, allowing him to run for the Presidency as the candidate of a regrouped opposition in 1981. But it is hard to see how a Government defeat would really be in M. Chirac's interest. He has after all set himself up as the spearhead of the campaign to prevent the Left coming to power, even if his latest move seems to be playing into its hands. M. Chirac maintains that he is not trying to challenge either the President or the Government. It is not surprising that M. Giscard d'Estaing's supporters do not see it that way.

Strange bedfellows ponder the world tanker crisis

By JOHN WYLES, Shipping Correspondent

MORE than 50 top representatives of some of the world's leading independent tanker owners, banks, shipyards and oil companies will decide in London to-day whether to continue with a rare experiment in international industrial co-operation. Born out of an almost desperate desire by the four groups to do something to stem the enormous actual and projected losses caused by the oil tanker surplus, the International Maritime Industry Forum (IMIF) as they are called has failed to satisfy both the idealists and the impatient men among its founders. But it has greatly helped to forge a stronger common interest among people who are more accustomed to rivalry than co-operation.



The Onassis group, owner of Olympic Brilliance (left), seems to have ridden out the crisis, but fellow Greek Minos Colocotronis (right) had difficulties in meeting $300m. debts last year because of investing in supertankers.

The IMIF has also demonstrated conclusively that there are limits to the prospects for joint action and that these effectively preclude an effective attack on the problem by the tanker industry alone.

This will be fairly widely accepted by the Japanese and Norwegian shipowners, the American bankers, the German shipbuilders and the British oil company executives who will be among those attending to-day's meeting. It will be agreed that only governments, in co-operation with the industry, have the real power to transform the situation and make oil transportation once again profitable for all. Yet for many this will be a profoundly depressing conclusion.

The facts are these. Mr. Peter Douglas, the European Shipping co-ordination manager of the Chase Manhattan Bank, reckons that about $1.5bn. of tanker debt is currently in default and that governments are exposed to meeting the cost of at least half of this amount through supporting, insuring or guaranteeing shipbuilding credits. This has evinced little public concern from any of the main governments involved, such as the Japanese, West German or Swedish. Action has come from only one, the Norwegian Government, which set up a Guarantee Institute to prevent the distressed sale by owners and banks of what might have been a significant proportion of Norway's independent tanker fleet.

Government guarantees have, of course, been called for in some of the spectacular casualties of the tanker crisis which have attracted public attention in the past two years, for instance, Burmah, Colocotronis, Maritime Fruit Carriers and Hilmar Reksten. Bankers are confidently predicting that tax payers' money will again be handed over to meet government guarantees during 1977 as the accumulated effects of the crisis hit more independent owners. A study produced for the IMIF estimated that at July 1 last year some $4.3bn. (£2.5bn.) of mortgage debt was outstanding on oil tankers which had little prospect of profitable use over the next two or three years and that this figure might rise to $10bn. by 1980.

The burden of this debt falls largely on independent tanker owners who account for nearly 66 per cent. of the world's fleet of tankers and bulk carriers (carriers of oil and dry bulk cargoes). The rest of the fleet is owned by oil companies and governments. It was the independent owner who provided much of the motive power behind the speculative ordering boom which encouraged the world's shipbuilders to believe that they could expand their capacity indefinitely, and which resulted in the total tanker tonnage on order at the beginning of 1974 amounting to 99 per cent. of the existing tanker fleet.

The OPEC oil price rises ensured that what was already an inevitable surplus assumed the dimension of a calamity; and by the end of 1975 the over-capacity was over 100m. deadweight tons —more than 50m. dwt put into mothballs, the remainder cutting their operational capacity by "slow steaming." Between September 1973 and December 1975 the Worldscale index of spot freight rates (which takes into account fixed operating costs) tumbled from the very high dollar-earning level of 224 to Worldscale 22 which did not even cover voyage costs, let alone interest charges.

With more than 80m. dwt due for delivery from shipyards at the end of, 1975 it was generally forecast at that time that the surplus could last until 1982-83. Against this background of heavy actual and prospective losses the International Association of Independent Tanker Owners (Intertanco) took the initiative which led to the creation of the IMIF a year ago. The new organisation secured for its chairman the retired civil servant, Sir James Dunnett, who as Permanent Secretary at the Ministry of Defence, had won himself a formidable reputation in Whitehall for skilful diplomacy.

The IMIF has at times made considerable demands on these skills because Sir James has had to cope with Scandinavian owners, the worst hit group among the independents, who have often wanted action which the rest of the organisation thought unlikely to produce results. His starting brief was a paper prepared for an Intertanco meeting in London in December 1975. This argued that potential losses of $15bn. could be cut to $5bn. if the industry adopted an agreed package of remedial measures, most of which would require some measure of international government support and in particular anti-trust clearance from the U.S. Government so as to allow the full participation of American oil companies. It quickly emerged, however, that the U.S. Government was unlikely to waive its anti-trust regulations and that tanker owners were by no means agreed among themselves on the desirability of the five or six measures proposed.

For example, at the end of 1975 much of the discussion on curative action centred on a proposal to instal segregated ballast tanks in all tankers above 70,000 deadweight tons. This would have involved converting some of the tanker fleet's oil carrying capacity into tanks for the exclusive loading of ballast. However, early last year a powerful opposition lobby emerged among Norwegian tanker owners which argued that segregating the ballast tanks of existing vessels would adversely affect cash revenues from long-term charters and would, in any case, have only a marginal effect on the surplus. Although Greek owners have remained highly enthusiastic about the idea it looks like making very little progress.

Government backing would have been needed to make this and other proposals effective—such as using tankers for oil storage—and the IMIF's efforts last year established that for most governments the problem, unlike that of shipyard overcapacity, is not sufficiently serious to warrant a swift response, and may not produce any at all.

After its first full Forum meeting last March, the IMIF secretariat went on to present a detailed paper on the crisis to the OECD. This initiative was clearly welcomed by OECD officials who had been dependent on member governments for a view of the problem. Following the IMIF submission, the OECD set up a study group, which includes representatives of the secretariats of its Maritime Transport Committee and Shipbuilding Committee, and work on a report is now under way. The OECD study, and the need to help it with further information, concentrated the minds of the tanker industry. At the Forum meeting in June three study groups were set up. One kept the segregated ballast tanks idea alive by undertaking an examination of its possible commercial consequences; another attempted to appraise the structure of tanker finance and produced the estimate of $4.3bn. outstanding debt on unemployed tankers mentioned above; the third looked into the accelerated scrapping idea which is regarded within the IMIF as one of the more promising proposals, because it offers governments the prospect of some additional work for their shipyards.

After examining the likely supply and demand for different sizes of tankers up to 1980, the study group on scrapping concluded that there would be a balance between supply and demand, or even a shortage of tankers smaller than 100,000 dwt, while the surplus of Very Large Crude Carriers (200,000 dwt and above) would continue to be severe. A large proportion of the tonnage which has reasonable trading prospects by 1980 is ten to 15 years old or more, and the suggestion from the IMIF is for government-sponsored scrap and build policies offering inducements to owners of this ageing tonnage to break up their vessels and make replacement orders. Curiously the proposal holds more promise for shipbuilding than it does for the tanker industry. But it should be seen in the context of shipowners who are extremely worried that governments may, in trying to save their shipyards, take steps which could increase the tanker surplus or—and this is more likely—create a similar surplus situation in other shipping sectors by encouraging the construction of ships for which there is no market demand.

The need for an organisation to try to steer governments away from such a course will almost certainly mean that to-day's meeting will guarantee the IMIF another year of life. The shipbuilding crisis, with its sensitive social and political implications, has not only overshadowed the tanker problem but is unfortunately obscuring some of the extremely sensible warnings of men long involved in shipping. With EEC officials last week endorsing proposals for a generous credit scheme to attract shipbuilding orders from European shipowners, there is a growing concern among independent tanker owners and their bankers that a flood of cheap ships will create a surplus in the dry cargo sector. This could have serious consequences for many tanker owners, including the Greeks, who are heavily dependent on their revenues from dry cargo shipping for servicing their tanker debts. These fears brought stark warnings from the banks last year which will again become a familiar refrain

Mr. Otto Norland of Hambros Bank cautioned that the "use of over-generous credit terms as a sales tool for shipbuilders" would be very harmful for shipping. He went on: "You can be sure that commercial banks will withdraw from ship finance if they see this happening, and limit their involvement with the industry to lending against government guarantee or to a small number of top class international shipping companies."

In June, Mr. Douglas of Chase Manhattan developed the argument in a widely discussed conference paper. Liberal ship financing, he said, had been "a major causal factor" of the tanker depression and was, moreover, providing a subsidy for shipbuilding of which tax payers were oblivious. If credit was limited to 60 per cent. or even 50 per cent. (compared to the 70 per cent. and upwards currently available) it would be directly beneficial to shipowners "and it must follow that if the fortunes of shipowners improve, the prospects for shipbuilders will automatically brighten — if not immediately then certainly in the medium and longer terms."

Bankers have acknowledged the role of their own easy credit policies in creating the tanker crisis. They point out, however, that they are also living with its consequences in the form of loan moratoria, special funding arrangements, write-offs and, in the case of Maritime Fruit Carriers, the arrest and sale of vessels. Tanker owners will again be clamouring for special attention this year despite a slight easing of the crisis in 1976 when vessels laid up dropped by 20m. dwt. and tanker demand grew by more than 10 per cent. For a short time last year, spot freight rates for VLCC's out of the Gulf touched the seemingly giddy heights of Worldscale 37. This brought a large amount of tonnage out of lay-up because at that rate most owners would show a small surplus above trading costs. Yet the tanker owners' true commercial plight is highlighted by a very respectable estimate that Worldscale 55.4 would have been needed to cover trading and capital costs and Worldscale 73 for a 15 per cent. return on the investment. With no real end to the surplus for these large expensive vessels in sight, no tanker owner or broker expects even the Worldscale 55.4 rate to be touched this year.

MEN AND MATTERS

Grandson of Ostrer

Morgan Mason is bright but only in his early twenties, which makes him young to become a director of a company with £90m.-worth of annual sales. On the other hand, Boardroom control at Illingworth Morris, Yorkshire's leading wool textile group, has long had its unusual aspects.

Until 1975, just over 50 per cent. of the equity was in the hands of chairman Maurice Ostrer and his brother Isidore Ostrer, whose early financial careers had been bound up prewar with Gaumont British cinema company which passed eventually into the Rank fold. They were infrequent visitors to Illingworth's Bradford home, most communication being by way of cryptic messages from the Ostrers in the south of France. Many of the instructions related to the acquisitions of stakes in other, often less than pleased, textile concerns.

In September 1975 Isidore Ostrer, always reckoned the one who took most of the Illingworth decisions, died in England; and three months later to the day, Maurice Ostrer died at the Carlton Hotel, Cannes. One month after that, Isidore Ostrer's daughter Pamela Mason (ex-wife of actor James Mason), became a director representing the family shareholding, dispelling immediate speculation about a sale of the controlling block.

Now, another year on, her son has also joined the Board to help mind the business while his mother is away in America, where she enjoys a versatile career as a journalist and television personality, with property and mail order interests for good measure.

Mason junior has followed a similar path to Mrs. Mason's, working first in film production and more recently as an executive with the Johnny Carson TV show in America. Now, however, he has moved to Britain (London, not Bradford), having taken a crash course in management theory.

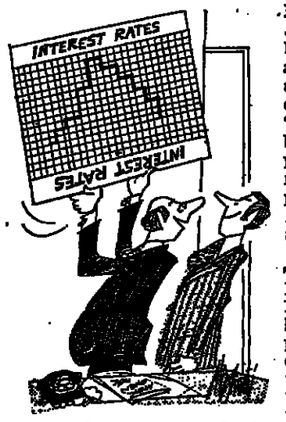
Morgan Mason stresses the faith he and his mother have in the people now running Illingworth, notably chairman Ivan Hill, a former Courtaulds deputy chairman. Uncertainty about the Ostrer family holdings persists, but trading has recovered sharply in recent months with the latest interim profits almost doubled at £1.44m. pre-tax.

So the controlling shareholders appear right to take comfort in Hill's team, and it looks as though Morgan Mason's time will be taken up mostly with the considerable estate problems which have followed the deaths of his grandfather and great uncle. Mason says he was "quite close" to them, though they tended to be as secretive about company affairs at home as they were with Illingworth employees. "We don't claim to be textile people," says Morgan Mason. "Our background is, for lack of a better word, show business."

There is no pretence, he adds with true show biz flourish, that "the Ostrer brothers strike again."

Clark joins Boyle

It must be galling for the leaders of State businesses to compare their actual salaries with the figures set out by an officially blessed source showing how much they should be paid. For example, Archie Willett, managing director of Cable and Wireless, receives £12,828 annually and has only had rises of 1.7 per cent. a year for the past four years.



"It's nice to see the chart the right way up again."

Willett and four other directors of Cable and Wireless—where the chairman, on £9,080, is Lord Short—have seen their irritation about relatively poor rewards become a public issue. The amount that Willett should be paid, according to the Top Salaries Review Body in 1974, is £20,000.

That committee, chaired by Lord Boyle, also recommended that the heads of British Steel and the Post Office should get £40,000, and the chairmen of the coal, rail, electricity and gas industries £35,000. These recommendations have been put on ice by the Government.

The experience of some nationalised industries, notably the Post Office, is that the reality of low salaries is making it difficult to fill top jobs—and in any case the Boyle scales are over two years out of date.

Another top salaries report is due to be put together, and those working on it will include a new face. It is due to be announced to-day that, at the Prime Minister's invitation, Sir John Clark is joining the review body. Clark, 50, is chairman and chief executive of Plessey and a gruff and severe critic of the current restraints on pay. "How can a man run a giant business," he asked in a double-page article attacking Government policy in The Sun newspaper last summer, "if he still has to fret about mortgages and bills?"

The intriguing question is whether the inclusion of a hard-liner like Clark (his Plessey salary is £69,000 which he said yesterday compared poorly with the international competition) means that a new pay report will acquire more than just academic status. Clark would be cross if that does happen and hoped "it will not take too long" to produce up-to-date proposals.

A rising son?

Now this is what I call backing Britain. At the Sony television plant in Bridgend, Wales, there is a Japanese manager called Hiromitsu Kuroda. His wife recently had a baby, which was given the name Hideo. In the Chinese form of pictogram writing used in Japan, Hideo can mean . . . . "Made in U.K."!

Expansionary

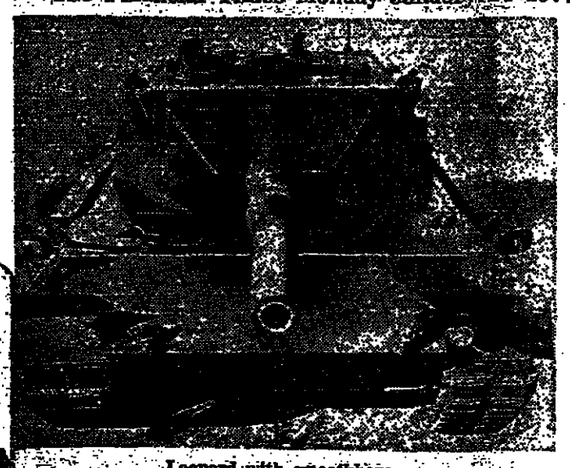
American know-how again. The latest bimonthly newsletter of the Holiday Inns organisation in the U.K. talks about the minimum standards set down by Memphis headquarters: "Bedrooms must be of a minimum size; all rooms must contain a double bed if a single room, or two double beds if a double."

Observer

NATIONAL HURDLES ON THE ROAD TO STANDARD ARMS

The big gun battle for Nato orders

BY DAVID BELL in Washington



Leopard with smoothbore

THE PROSPECT that Nato forces might one day be using a tank with a common gun has receded further into the future. The attack to the joint tank may only be temporary but, for the moment, it is another blow to the idea of real standardisation within the Nato alliance.

For more than 20 years Nato planners have been concerned about the lack of compatibility between weapons used by the member countries. Sen. John Culver, a leading Congressional expert on the subject, refers scathingly to a hodgepodge of weapons which make Nato appear to be a military museum." He claims, for example, that the alliance has 22 different anti-tank weapons and seven different main battle tanks. The logistical and maintenance problems which this presents are formidable. They are also expensive. But doing anything about them has proved extremely difficult. Some joint projects—including a U.S.-German main battle tank programme—have foundered.

Others, like the Franco-German Roland anti-aircraft missile, have been a qualified success. The choice of the F-16 by four Nato countries last year was regarded as a significant advance. Nato airfields have been equipped to handle most of the types of aircraft now in service and there has been a great increase in the amount of intra-European co-operation on various projects.

But standardisation within the alliance as a whole has made little progress. It was for this reason that great hopes were pinned on the joint development of what was to be a new Nato Main Battle Tank. The U.S. Army alone plans to take into service 3,000 new tanks in the next few years. The Germans intend to build several hundred. Chrysler, which last November won a $300m. preliminary contract for the new U.S. tank, expects eventually to sign a $5bn. deal to produce it.

British gun

For Britain there is a possibility that a new version of the British 120mm gun could yet be fitted to later models of the new American XM-1 tank and win export orders worth several billion dollars.

The original hope had been that the American tank might share an engine with the German Leopard II as well as a gun. In fact the first generation of the Leopard II is to have a diesel engine and all the XM-1s are to have gas turbines. The Leopard II will have a new German 120mm smooth bore gun, while the first batch at least of the U.S. tanks will use an existing 105mm gun armed with new and much more powerful ammunition.

There is still the possibility that it may all come right in the 1980s. But Nato planners are haunted by the "worst case" possibility that by the end of the next decade there could be three main battle tanks, firing different ammunition and driven by different engines. That would mean a logistic nightmare that might seriously restrict Nato manoeuvrability in the event of war.

President Jimmy Carter emphasised the need for greater standardisation within Nato during his election campaign. The new Administration may well seek to act on his words. If so, it could do worse than to start by looking at the tank affair which has become something of an object lesson in the problems that face co-operative projects of such size.

What started as an attempt to get a common tank first became an effort to get interchangeable guns and engines and last week officially became an attempt to standardise only such secondary components as the tracks or gun sights. Political and industrial pressure on both sides of the Atlantic, differing views of the strategic role of the tank, and some straightforward nationalism all played their part in ruling out far-reaching standardisation.

In the case of the tank the first problem is simply the different ages of the various types of tank now stationed in Europe. The British Chieftain will probably last until the late 1980s, and the American M-60 with its improved 105mm gun will last five more years at least. But the U.S. built M-48 tanks in the German army, in the words of one official, "will soon begin to fall apart."

Though that will still leave the Germans with their Leopard I, the Leopard II programme is considered vital in Bonn and is expected to be approved finally in March. Convinced that the 105mm gun will not be adequate to counter Soviet tanks of the 1980s the Germans have opted for their own 120mm smooth bore gun and, unsure what the U.S. would decide about an engine, have already committed themselves to a diesel version.

The Americans have felt no such immediate pressure. They believe their 105mm. gun to be adequate for the time being, but they have designed their XM-1 turret so that it can accommodate a 120mm. gun if they change their minds in mid-programme. With production of even the first XM-1s several years away, they can afford to compare the German gun with the redesigned British 120mm. gun, as announced late last week.

That suits Britain perfectly since Britain wants to put off a decision about its own new battle tank as long as possible and believes that its re-configured 120mm. gun will prove both more flexible and cheaper to fire than the German one. (The Americans are meanwhile also reported to be toying with the idea of a new kind of tank gun which in the long term might rule out both the British and the German guns from their forces.)

The U.S. Department of Defence, unlike some groups inside the U.S. Army, can see the need for a larger gun than the 105 mm. by the mid-1980s, but the question of which gun it is to be is nowhere near resolution. It is partly a complicated question of whether rifled-bore guns are more effective than smooth-bore designs. Britain has a rifled 120 mm. gun on its Chieftains and is currently working to produce a re-configured version using a new type of steel which, the British say, would have a "penetrative capability" 40 per cent. greater than existing guns.

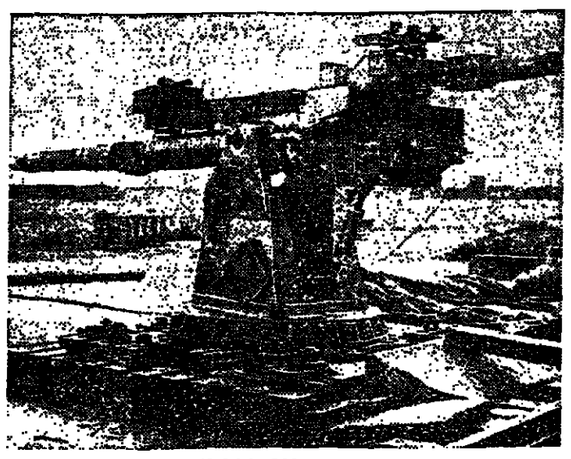
Both rifled bore and smooth bore guns have powerful friends at court. It used to be claimed that smooth bore guns, because of the design of their barrels, could fire shells which would hit the target at greater speed than shots fired from rifled bore guns. They would thus have a deadlier punch. In practice improvements to the design of the rifled barrel may have neutralised this advantage. Moreover, rifled guns fire more varieties of ammunition which makes them more flexible on the battlefield.

Britain claims that new types of ammunition for the 120 mm. gun are both more accurate and cheaper to fire than anything else so far developed. Besides, both the British and the Americans have some doubts about how good the German gun really is.

Buy America

But, these and other technical questions apart, the Nato tank project has also run into other problems which those involved say are common to all attempts to standardise in the past few years. The first is distance. The myriad technical problems that arose with the U.S. during negotiations about the manufacture under licence of the American version of the Roland anti-aircraft missile for instance took longer to solve because of the difficulty of transmitting large amounts of technical information across the Atlantic and then to California where many of the major U.S. contractors are based.

Besides, in the U.S. there are some restrictions imposed by the "Buy America" law and, more important, there is the role of the Congress whose powerful armed services committees, while theoretically in favour of standardisation, have close ties with the armed forces. Both the army in particular and the Defence Department in general have long experience of lobbying and can always find ways of delaying projects if they choose.



British 120mm gun

Beyond this, European officials say there sometimes is palpable apprehension among middle level U.S. officials that an American decision, say, to buy a German tank might eventually leave them without a job. "It is always in the middle ranks of the defence establishment, on both sides of the Atlantic, but particularly in the U.S., that a joint project can be undermined if there are enough people who want to damage it," one European official said.

Meanwhile there also are the problems that spring from the immense differences of size among the members of Nato. America for instance can afford to pay for the building of two competing prototype tanks and then to choose. No single European nation has ever felt able to justify that expense.

The sheer size of the larger U.S. defence contractors also makes for problems. One possibility in the future is that the more nationalist prejudices might be avoided if European and American companies combine to produce competing versions of new weapons: BAC and Boeing, say, against Lockheed and a Franco-German consortium. But there is a feeling that the smaller European companies might be all but engulfed by large U.S. partners and such projects might revive fears about a gradual disappearance of an independent European aircraft industry.

Optimists point to the vote in the North Atlantic assembly of parliamentarians from Nato countries in Williamsburg last year which called on Nato members to begin work on common specifications for a new fighter for the whole alliance in the 1990s. There is also hope of real co-operation in the design of RPVs (Remote Piloted Vehicles) which can go unmanned on search and destroy missions.

But standardisation is an idea whose time has still not really come. Unless the Carter Administration throws real weight behind it in the months ahead that is likely to remain the case for some time. Even if the new administration does decide to act, the obstacles will probably be no less formidable than in the past.

Letters to the Editor

Options for a Chancellor

From Mr. G. Rippon, QC, MP.

Sir, — If the House of Commons is to exercise the influence it should upon taxation policy, it will have to address its collective mind to the important considerations raised in your leader (January 19) on "measuring the cost of tax concessions."

There is a wider undertaking by of the need to reduce the burden of direct taxation on the higher levels of income. Here the cost is easily borne. If in the current financial year 1976-77 the maximum rate of taxation of 60p in the pound, the approximate cost to the Exchequer would be £120m. if applied to earned income only and £220m. if applied to all taxable income. Even if the level were to be reduced to 55p or 50p the approximate cost, assuming that the investment income surcharge is retained at its present level in addition to the general income-tax rate, would be: for earned income £165m. and £35m., and for unearned income £35m. and £180m. respectively.

To give substantial relief at the lower levels would, of course, be much more expensive. Thus the cost for 1976-77 of raising by £500 the income-tax allowances for single persons, earning wives, married persons and the aged and at the same time reducing the basic rate from 35 per cent. to 30 per cent. would be around £5.9bn. in a full year. Even a choice of alternatives on this scale could be achieved simply by the elimination of certain allowances, although, for example, by making sickness benefits taxable about £175m. would be saved. On the other hand, direct taxation reforms would have priority over various forms of subsidy. There seems little to justify the fact that, in the teeth of the latest round of public expenditure cuts, housing subsidies are expected to rise by £97m. next year, even allowing for an average rent increase of £1 a week.

Certainly a re-examination of the tax credit proposals put forward by Lord Barber when he was Chancellor of the Exchequer is desirable, but we must accept the conclusion that a sizeable transfer from direct to indirect taxes is a necessary first step in major reforms. In this connection it is estimated that the additional revenue in a full year from raising the standard rate of VAT to 10 per cent. would be £2bn., to 12½ per cent. £1.37bn., and to 15 per cent. £2.12bn.

I suggest that these figures provide at least a starting point for a fruitful costing exercise to illustrate the options that are open to a bold Chancellor of the Exchequer.

Geoffrey Rippon.
House of Commons, S.W.1.

Celtic guinea pigs

From Mr. G. Tinley

Sir, — Lord Kilbrandon's colleagues who, unlike the wholly official authors of the report commissioned by the Hansard Society, comprised the Royal Commission on the Constitution, were by no means unanimous in their findings. But on one thing all were agreed, namely that the existing Westminster system of voting is wholly inappropriate to devolved assemblies. Its acknowledged polarising and distorting effects could be utterly disastrous in situations where substantial and strongly dissenting minorities are likely to be a usual occurrence.

On this central issue I am sure the chairman of Conservative Action for Electoral Reform (Jan. 11) and I agree and welcome the Conservative Party's decision to allow its members a free vote on the proportional representation amendments to the Scotland and Wales Bill.

That said, Mr. Wigram's apologia for the additional member system must not go unanswered. The proponents of AMS would have it imposed on the Scots although it has never been tried out, does not give certainty of proportionality and does not give the voter any more choice than he has at present.

Mr. Wigram concluded his letter by referring to the need for electoral reform at Westminster and writing "no one can now say which system will be, or ought to be, selected." Either he is suggesting that the Scots and Welsh assemblies will do nicely for experimentation or else, equally disturbing, that instead of long term perspective AMS is seen as the solution to short term problems in party political manoeuvering.

Indeed one can say now which system in most suitable and promises to work best in the long term. There has been a hundred years of study of voting systems and our legislators ought to be putting forward carefully thought out proposals which have stood the test of time not gambling on Celtic willingness (or otherwise) to be electoral guinea pigs.

G. E. N. Tinley
Trevaldwyn, Alma Road,
Reigate, Surrey.

A variety of yield values

From Mr. C. de Lisle

Sir,—Investment managers in New York or Tokyo, London or Zurich considering a Eurobond investment would all be dealing at precisely the same price and on the same yield basis, as instanced by the Eurobond supplement which you print, which is compiled by InterBond Services. This admirable worldwide conformity stems entirely from the authority wielded on behalf of its members, by AIBD (the Association of International Bond Dealers—Swiss based) which insists that all its member firms, spread over 18 countries, strictly adhere to the formulae laid down in its rules. In the U.S., also, calculating yields of U.S. bonds and industrials follows a well known and accepted pattern, resulting in market conformity.

Unhappily, the U.K. manager is not so fortunately placed for he, often unbeknown, will inevitably rarely be comparing like with like because many brokers and jobbers apparently have their own pet methods of calculation. Believe it or not for a "short" Government security there can be well over 10 different yield values for the self-same stock. The methods of calculating maturity yields vary from straight formula working to computer scheduling and one consortium of elegant brokers and jobbers contrives to combine both these methods for longer dated stocks.

The above variations also vary as to their discounting methods, some by compound interest some, for "shorts", by simple interest. Again, superimposed on the above some firms adjust the yields if redemption day falls on a week-end or Bank Holiday, but there is no agreement on method, some adjusting only one day, some two and some three if Bank Holiday is on a Monday. One consortium goes even a stage further and adjusts if the interim interest payments also fall on a non-banking day.

The industrial section also has its anomalies for in this section expenses are taken into account before yields are calculated but these vary from firm to firm and are seldom notified in the daily lists circulating. One consortium ignores expenses in the calculations but provides an expenses "factor" to be subtracted (for buyer) or added (for seller), to the yields irrespective of whether they are net or gross yields to redemption.

Are all these variations on a single theme not ridiculous, and in some cases not down right misleading? The different methods employed presumably contribute to the minutest accuracy but I for one, and I assure you I am not alone in this, would far prefer uniformity to the faint possibility of greater accuracy per cent by a thousandth or two. Is it not therefore time for the London Market to consider the formation of an association similar to AIBD, or for the SE Council to step in a rule? And if, as I hope, uniformity becomes the aim could also our method of quoting prices also be considered? The worldwide practice is to quote "clean" of accrued interest, in the London Market the practice is to quote "dirty," save for one minority class of stock, a fact which often causes surprise, and in some cases no little annoyance, to those who are not closely acquainted with our peculiar methods.

C. de Lisle.
Robley Park,
Ridge,
Nr. Potters Bar,
Herts.

Is the sky the limit?

From Mr. K. Middleton.

Sir,—Although we do not know how much of the many £ billions lately accruing to the Government from issues of Gilts has gone to the redemption of earlier stocks, there can be no doubt that the total debt has greatly increased. The Chancellor has himself spoken of the much heavier burden of interest that is about to be thrown on taxpayers.

What, then, is the limit to this process? Has the time not come for an authoritative inquiry into the full effects in all directions—social as well as economic—of an ever-increasing deadweight National Debt to ascertain, in particular, whether there does not need to be a fixed ceiling to it and, if so, what that ceiling should be.

If there need be no such limit why could government expenditure not be met entirely by borrowing internally, and all taxation abolished?

Kenneth R. Middleton.
13, Dean Park Crescent,
Edinburgh, 4.

Benefits of a bridge

From Professor Anthony Goss

Sir,—It is encouraging to see, in your special supplement on Humberside (January 19), some confidence being expressed in the potential of the region and emphasis on the significance of the Humber bridge.

The bridge has been an easy target for politicians, academics and some of the Press because it had been started and because its impact will not be apparent until some time after it has been completed. No doubt, the Forth and Severn bridges would have had similar treatment had they been started later in more difficult economic times.

In studies that I was privileged to undertake for Hull City Council in 1967 on the potential for industry on Humbershide, I concluded that the Humber bridge ". . . could be the catalyst that would fuse Humberside together, creating a new, powerful urban group."

Unification of the two banks will have economic and social implications which defy trend analysis. Together with the M62, now linking Hull and Liverpool, this region will have a developing future.

Thank goodness that someone in Whitehall had the courage to say "yes" to the Humber bridge which gives at least one region a basis for greater confidence. Perhaps, it is more of this sort of courage and forward thinking that Britain is sorely in need of now?

Anthony Goss,
Department of Town Planning,
University of Wales Institute
of Science and Technology,
King Edward VII Avenue,
Cardiff.

Money for urban slums

From the Chairman,
National Home
Improvement Council.

Sir,—The somewhat provocative heading to Joe Rogaly's article, "Throwing yet more money at urban slums" (January 18) was unfortunate if it gave anyone the impression that all money spent on urban renewal is wasted. This is not exactly what Mr. Rogaly said in the article itself, though he came rather closer to doing so than is justified in the context of a particularly difficult and complex subject.

The view of the National Home Improvement Council is that the fundamental need is to provide every household with a decent home. In present circumstances, this must be done in the most economical way. In many places, including decaying urban areas, it can be done more cheaply by renovating older properties than by demolishing them and building new ones. Ideally, such work should be planned within a framework of urban renewal in the broader sense.

Mr. Rogaly wonders what people living in these areas actually want and expresses his own opinion. None of the things he mentions with the possible exception of gardens (if he means private gardens) is incompatible with the idea or the practicalities of urban renewal. Perhaps "a sense of community" is as good a phrase as any to sum up the combination of essential factors.

But what does Mr. Rogaly really mean when he refers to "urban renewal?" He talks about the costly business of building council houses as a useless policy, conveying the impression that decaying urban areas should not be the subject of comprehensive redevelopment. Then he uses the phrase about "throwing yet more money at urban slums" which, in the light of his earlier comment, sounds like a rejection of renovation. From the financial angle, he points out that "there is no room for more costly mistakes of the kind I am postulating" — but what exactly does he have in mind?

In an analysis of housing needs published early in December, the NHIC advocated a straightforward switch of £400m. from local authority new building to both public and private sector renovation, with substantial benefits in net additions to the housing stock and reductions in unemployment in the building industry. This does not seem incompatible with a policy of renewing inner urban areas, where other factors also support such a policy. And what is to happen to decaying urban areas if they are not to be renewed in one way or another?

One last point. The subject is too complicated for anyone to claim a monopoly of wisdom. The analysis we produced was issued in the form of a discussion document. We urged that others should comment and criticise in order that between us we can reach the right solution. If Mr. Rogaly's article and his somewhat dogmatic assertions help to stimulate further debate, it will have served a most useful purpose.

E. G. Plucknett
26, Store Street, W.C.1.

Inner city problems

From Messrs P. Gripaios and J. Foreman-Peck

Sir,—Our research into inner city problems leads us to agree with the main points of the article by Joe Rogaly (January 18) that any policy which attempts to revitalise inner city areas by attracting back population and jobs is likely to involve a considerable waste of resources.

The inner cities are declining as a result of long-established economic trends. Manufacturing firms have moved out because of changes in communications cost and production techniques, favouring more peripheral locations. Service firms have in many cases followed those in manufacturing and also the people who have moved out to improve their living standards. Government dispersal policy has been an additional influence on the outflow of people and jobs but this does not mean that a complete reversal of policy is now called for.

On the contrary the inner cities have declined to such an extent that the resources required to revitalise them must be so enormous that they could surely not be provided by an ailing national economy. Furthermore, the changes in the profitability of an inner city location for firms (which are indicated by the fact that 70 per cent. of inner city firm closures are complete) and changing household preferences clearly show that even an enormous expenditure on the inner cities could at best be only a short-term palliative rather than a long run solution. Finally, it must be true that British manufacturing industry will be further hampered if a significant proportion of firms are induced to operate at uneconomic sites.

The best long-term solution would be to allow a market response to changing economic conditions so that the outer city can develop as the inner city declines. This would involve increasing labour mobility by ending the present policy of building council houses in areas of labour surplus, facilitating industrial expansion at the periphery of cities (possibly by relaxing green belt restrictions) and scrapping the present dispersal policy which encourages relatively long distance movement. The inner city area left would also change as a result of market conditions.

Peter Gripaios
James Foreman-Peck,
Dept. of Economics,
Thames Polytechnic,
Wellington Street, S.E.18.

Hr. Helmut Schmidt, West German Chancellor, ends two-day visit to London for regular Anglo-West German summit.

Labour Party/TUC Liaison Committee meets.

Icelandic Parliament reassembles and is expected to resume negotiations with EEC on fishing rights.

Mr. Edmund Dell, Trade Secretary, speaks at Institute of Export lunch, Goldsmiths' Hall, E.C.2.

Mr. John Stonehouse seeks leave to appeal against conviction, Law Courts.

Sir Robin Gillett, Lord Mayor of London, attends Salters' Company dinner, Salters' Hall, E.C.2.

To-day's Events

London Chamber of Commerce and Industry foreign currency seminar, Royal Festival Hall, S.E.1, 9.30 a.m.

PARLIAMENTARY BUSINESS

House of Commons: Water Charges Equalisation Bill, second reading. Motions on Road Vehicles (Registration and Licensing) (Amendment) Regulations.

House of Lords: Patents Bill, second reading. Counter-Inflation (Price Code) (Amendment) Order 1976.

COMPANY RESULT

Alexanders Discount (full year).

COMPANY MEETINGS

See Week's Financial Diary on page 8.

OPERA

D'Oyly Carte Company in Ruddigore, Sadler's Wells Theatre, E.C.1, 7.30 p.m.

BALLET

Royal Ballet dance Swan Lake, Covent Garden, W.C.2, 7.30 p.m.

MUSIC

English National Opera Orchestra, conductor David Lloyd-Jones, with Margaret Curphey (soprano) in excerpts from works by Wagner, Royal Festival Hall, S.E.1, 8 p.m.

COMPANY NEWS

CompAir aims for stronger attack on U.S. market

IN PLANNING towards its future, CompAir aims, as a major priority, to broaden its product base in the U.S. and to raise domestic earnings in that country to a much higher level, says the chairman, Mr. Niall Macdiarmid.

Through Kellogg-American, CompAir is already well established in the U.S., whose domestic market still represents over half the free world's demand for compressed air products.

Mr. Macdiarmid says the successful achievement of this strategic aim will eventually result in a substantial change in the geographical sources of the overseas profits, but this does not imply that CompAir's future investment in the U.K. will be negligible.

"We have far-reaching plans for re-equipping the various manufacturing facilities and expect the rate of capital expenditure to accelerate during 1977.

"The fact is, however, that full employment of the group's U.K. workforce and the profitability of our eight factories in this country depend squarely on export markets."

To improve the quality of earnings, efforts and resources are being concentrated in countries where political and industrial climates offer relative safety and stability for the investment of capital, together with markets large enough to allow commensurate rewards for successful enterprise. Apart from the U.S., much stronger organisations have recently been developed in France and Western Germany.

In a reference to CompAir's abortive bid for Desoutter Brothers, the chairman says he believes that the merger proposed would have created a significant opportunity to strengthen the British compressed air industry and to consolidate a force capable of competing more effectively in world markets against major foreign groups in the industry.

Underlying the constant programme of product improvement, design and development, Mr. Macdiarmid states that the two strategic aims are rationalisation of the very wide product range and concentrating work at each production centre upon a particular part of the range.

The result will be much longer production runs of reduced and simplified product lines at each specialised plant, leading to a reduction in the number of different parts, lower stockholdings, greater efficiency and lower unit costs. "The successful achievement of the policy is central to CompAir's future and we have already made substantial progress."

In the 53 weeks ended October 3, 1976, group turnover came to £111.95m. (£85.96m.) and profit was £9.38m. (£7.3m.), as reported December 16. The dividend is 3.2071p (3.1p) net.

The major part of the profit increase can be attributed to foreign earnings; not only from the group's own production but also from the franchises of other U.K. manufacturers which CompAir holds in certain important territories. Exchange gains on foreign currencies increased very sharply at the year end to £2.87m., and these have been taken directly to reserves.

After allowing for a substantial investment in new premises, the cash position has been well maintained. Cash and short term deposits rose from £1.9m. to £3m. and overdrafts from £4.9m. to £7.5m. Therefore, in a year when turnover increased by £26m. and stocks by some £9m., the effective net rise in indebtedness to the banks has been contained at less than £1.5m.

Gross expenditure on fixed assets was £5.55m., some 25 per cent. of which related to property mainly in the U.K., and the rest to plant and equipment split almost equally between home and overseas.

The chairman, as usual, will give an assessment of the outlook for the current year, as he then sees it, at the annual meeting, which is to be held at the Great Eastern Hotel, E.C., on February 16 at 11.30.

See Lex

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indicators are not available whether dividends concerned are interims or finals and the sub-divisions shown below are based mainly on last year's timetable.

TO-DAY

Interims:—Ecuss, I. D. and S. Rivita.

Finals:—Alexanders Discount, Bamfords, Derby Trust, Warren Plantation Holdings.

FUTURE DATES

Interims:—

Amalgamated Distilled Producers	Jan. 28
Manson Finance Trust	Jan. 27
Scottish English & Euro. Textiles	Jan. 25
Second Alliance Trust	Feb. 4
Unitech	Feb. 1

Finals:—

BATs Industries	Feb. 1
Saatchi and Saatchi Compton	Jan. 27

● comment

Comparisons between Martin and NSS shows the latter to be the top performer. Martin's profits are 10 per cent. higher on a sales advance of 26 per cent., while NSS shows advances of 22 per cent. and 35 per cent. respectively. Martin's profit margins eased 0.6 of a point to 3.8 per cent., while NSS fell back by a similar amount but on a much higher basis. In part this can be explained by the number and different type of shop openings. NSS had net openings of 33 branches to 349, but only five of these could be classified as new, the rest being existing newsagents acquired. Meantime Martin opened 17 sites, bought 13 and sold 14 for a total of 429. So Martin has opened a greater proportion of new sites which obviously take time to reach profits maturity. Turning to the balance sheet, NSS is the stronger with cash of £2m. against only £46,000 for Martin. Still, the faster short-term growth at NSS is probably fairly discounted in a p/e of 7.6 at 52p, against 4.8 at 96p for Martin, while the yields are 5.6 per cent. and 8.9 per cent. respectively. But Martin could prove the better long-term performer when new shops reach optimum profitability.

Martins off to good start

TOTAL SALES for the ten weeks to December 12 at Martin the Newsagent were 17 per cent. higher than the same period last year and the group had a satisfactory Christmas, states Mr. B. H. S. Martin, the chairman.

Consumer spending in 1977 may well be sluggish he warns members "but we expect to gain some benefit from our economies made during 1975-76."

As reported on December 14, sales excluding VAT increased by 26 per cent. to £56.36m. in the 53 weeks to October 3, 1976, and pre-tax profits were 10.1 per cent. higher at £2.15m.

Of the sales increase 7 per cent. is attributed to extra tobacco duty which yields no profit.

On a CPP basis sales are shown at £59.68m. (£56.44m.), pre-tax profits at £2.26m. (£2.78m.), and attributable profits at £1.04m. (£1.67m.). Total shareholders funds are given as £12.08m. (£11.2m.) compared with £5.38m. (£4.48m.) historical, and net assets per share at 229.8p (216.8p) against 102.2p (86.6p).

The group opened 17 new sites during the year, bought 13 established stores, sold 14, redeveloped four and modernised many others.

Since October 4 one new site has been opened, 13 established stores have been purchased and four disposed of. Arrangements have been made for an additional 11 branches and further stores are in the course of negotiation.

The group is spending around £2m. during the current year, mostly in the purchase of established stores, but also in the opening of some new sites and the redeveloping of some existing branches. Medium term loans totalling £500,000 have been negotiated with the group's bankers to assist financing of this expansion; it had drawn £250,000 by October 3, 1976.

A statement of source and application of funds shows an increase in working capital of £722,000 (£179,000) at the year end.

Meeting, at the Connaught Rooms, W.C., on February 16, 1977.

Freddie Mansfield

Mr. L. O. Rice, chairman of Burton Group.

Burton getting into shape

ALTHOUGH THE economic outlook cannot be regarded as encouraging, and the achievements of the future will be much influenced by government policy, the Burton Group is improving its ability to make progress in adverse circumstances, says the chairman Mr. L. Rice.

Much has been done to ensure that the group started the current year on a stronger base, with reduced borrowings and the advantage of having dealt with businesses which incurred trading losses of £2.4m. in 1975-76.

This clears the ground for concentration of management and other resources on profit improvement in meanswear and the expansion of Top Shop.

Facilities available from bankers, together with special arrangement for the funding of the expansion of the meanswear credit operation, are sufficient to meet the forecast financing requirement for the current year.

Mr. Rice reports that cumulative sales for the first 19 weeks of the current year were 8.6 per cent. above the corresponding period last year, if businesses sold are excluded.

The range of divisional sales performances has been wide, with Top Shop, Peter Robinson and Ryman performing well, but the menswear side (including France) showing flat trading. However, since November 1 the sales trend has been better.

In the year ended August 18, 1976, group sales were £145.76m. (£146.49m.) and the loss before tax came to £1.35m., compared with a profit of £2.5m., as reported on December 17 in a full preliminary statement. The dividend is halved to 2.14274p net.

Meeting, Leeds, February 16 at noon.

See Lex

Hambro Life record new business

Hambro Life Assurance announces record new business, premium income and sums assured for 1976. The figures include the subsidiary, Hambro Provident Assurance.

New annual premiums were £23.2m., an increase of 20 per cent. Single premiums were up by 81 per cent. to £49.7m. and total initial commissions rose by 29 per cent. to £10.2m.

The company uses total initial commissions as a measure of the relative importance of different classes of business because the overhead and profit margins built into the various policies are proportionate to the initial commissions payable. Measured by initial commissions, 85 per cent. of 1976 new business was annual premium business (1975 91 per cent.).

The total premium income was £106.9m. ahead by 57 per cent. Total annual premium income, including renewal premiums but excluding single premiums was £57m. compared with £40.6m.

Reflecting the increased emphasis on the sale of life assurance protection, new sums assured at £514m. were 36 per cent. higher than for 1975.

Hambro Life also announces its entry into the whole life assurance market on February 1 with a new concept of whole life assurance.

Mr. Mark Weinberg, managing director, believes the new policy combines the best features of unit-linked and traditional whole life assurance.

The plan is designed both for the young family man who needs very high life assurance protection at the lowest possible cost and for the older man who needs lifelong cover to meet Capital Transfer Tax on his death. Details will be released next week.

Land & House forecasts little change

Mr. Geoffrey Pollard, chairman of Land and House Property Corporation tells members in his annual statement that, subject to there being no significant variation in sterling or interest rates, he anticipates results for the current year will be similar to last year's.

As reported on December 22, pre-tax profits for the year to September 30, 1976, advanced from a depressed £142,779 to £282,726. The dividend is held at 3.753p net.

A statement of source and application of funds shows an increase in working capital of £1.51m. (£0.34m.).

At December 21, 1976, General Accident, Fire and Life Assurance Corporation held 15.34 per cent. of the equity.

BIDS AND DEALS

DELTEC AND LET BUY FAGS STAKE

Deltec Trust (part of the Bahamas-based Deltec banking group) and LET Investments have acquired in equal proportion Estates House Investment Trust's 44 per cent. equity stake in Antofagasta (Chili) and Bolivia Railway at a price of £17½ per 100 shares and are extending the offer to all other shareholders. They have also acquired EHIT's 29.7 per cent. stake in Antofagasta's Preference shares at 34p per unit. The total consideration for both purchases was £696,675. The purchasers intend to invite "certain third parties" to participate in the investment in Antofagasta in due course.

Antofagasta's Ordinary shares were quoted pre-bid at £16½ (per £100), up £1½ while the Preference were at £34, up £2 (per £100).

ASSOCIATE DEALS

Brewin Dolphin carried out the following transaction on behalf of associates: on January 17, 1977, bought 1,500 Cattles (Holdings) at 34p, 2,500 Cattles (Holdings) at 34½p, and bought 6,000 Cattles (Holdings) at 34p. On January 18 bought 10,000 Cattles (Holdings) at 34p, bought 2,500 Cattles (Holdings) at 34p, and bought 10,000 Cattles (Holdings) at 34p. On January 19 sold 2,500 Cattles Holdings at 38p and on January 20 sold 10,000 Cattles (Holdings) at 37p.

James Capel has bought on behalf of Morison Son and Jones International 11,500 Kimpher Ordinary at 30p per share.

Robert Fleming has purchased 20,000 Spear and Jackson International Ordinary shares at 118p as an associate.

LONRHO HAS 93.7% OF L.C. & W.

Lonrho announces that acceptances of its offer for London City and Westcliff Properties have now been received in respect of 47,250,972 shares and it now owns 93.7 per cent. of the capital.

MICROWAVE ASSOCS.

Microwave Associates has purchased the assets of Decca Desitron Microwave and Decca Microelectronics divisions of Deram a Canadian subsidiary of Decca of London. Both divisions are located in a Toronto suburb and make microwave components and microcircuits.

ULTRA ACQUIRES AYLING SUBSIDIARY

Ultra Electronic Holdings has paid £120,000 for Bribond Printed Circuits, the Frank H. Ayling subsidiary.

Based in Chichester, Bribond manufactures a wide range of printed circuits.

SHARE STAKES

Jantar announces that Mr. E. S. Nassar has acquired 277,500 Ordinary shares, or 14 per cent., of the company.

Cleves Investments now has a beneficial interest of less than 10 per cent. in the Ordinary capital of Centreway.

James Finlay Corporation has acquired a further 25,000 Ordinary shares in Provincial Cities Trust and now holds 28.13 per cent.

Breedon and Cloud Hill Lime Works has been informed by Consolidated Gold Fields that it has sold 5,000 Breedon Ordinary shares reducing its holding to below 10 per cent.

APPOINTMENTS

LCP Board changes

LCP HOLDINGS have strengthened the Board of the property division, LCP Properties, by appointing Mr. Stephen Morley, as managing director and Mr. Alan Cartwright a director. Mr. G. J. T. Richards becomes deputy chairman and Mr. D. M. Rhead, chairman of LCP Holdings, remains chairman of the division.

★

Mr. K. R. Dower, Mr. A. F. Ham and Mr. R. Nipper have been appointed executive directors of BLAND PAYNE (INTERNATIONAL).

★

PHONOTAS COMPANY has appointed Mr. Rudge Rowntree managing director. He was previously director, southern division. Mr. Rowntree takes over from Mr. Basil Becker, chairman of the Phonotas Group. Mr. Becker is to devote more time to group expansion.

★

Mr. Tony Ward-Lewis has been appointed divisional director of the BATEMAN CATERING ORGANISATION for the Midlands, Wales, West Country and East Anglian divisional area.

★

Mr. Peter Warden, who joined YORKSHIRE SWITCHGEAR AND ENGINEERING, in 1966 as export manager, has joined the Board as export director. He was previously Yorkshire Switchgear Group export manager.

★

Mr. A. E. Gould has been appointed director of personnel of NORTHERN GAS. He succeeds Mr. Harry Walton who is retiring after 46 years in the gas industry.

★

The following are to become directors of JOHN BROWN GROUP MANAGEMENT, a new management company of John Brown and Company. They are Mr. J. R. Mayhew-Sanders, chairman; Mr. J. A. R. Staniforth, Mr. H. B. Morris, Mr. G. W. J. Trowbridge, Mr. J. R. Smyth and Mr. A. G. Gormly.

★

Matheson and Co. the U.K. wholly-owned subsidiary of the Jardine Matheson Group, is forming a new company, HOWE MATHESON TANKERS, in order to develop further its tanker broking activities. Mr. Stuart E. Wilby has been appointed a director and general manager of Howe Matheson Tankers from February 1. Mr. Wilby joins the group from Galbraith Wrightson where he was a director of their tanker broking division.

★

THE HONGKONG AND SHANGHAI BANKING CORPORATION states that Mr. A. D. A. G. Mosley, executive director, will shortly assume responsibility for the Bank's operations in Hong Kong from Mr. J. L. Boyer. Mr. Boyer will be joining the head office and will be appointed an executive director following Mr. E. R. Udal's retirement in April, and a deputy chairman when Mr. Sandberg becomes chairman next September.

★

Sir Leslie Williams, is to become chairman of the Civil Service Appeal Board on April 1, in succession to Mr. J. J. S. Shaw, who is retiring. Sir Leslie is currently a deputy chairman of the Board.

★

Mr. R. W. Freeman has become managing director (designate) of CONTAINERWAY AND ROAD-FERRY, part of the National Freight Corporation. He will succeed Mr. R. G. Davies as managing director when the latter retires later in the year. Mr. Freeman is a director of Ferry Trailers and a member of the Board of management of Irish Ferryways.

★

STAG FURNITURE HOLDINGS state that from February 1 Mr. I. C. McKenzie, is to be group company secretary, and Mr. G. Perkins, group financial controller.

★

Mr. A. Morgan Mason has been appointed a non-executive director of ILLINGWORTH MORRIS AND CO.

★

Mr. Herbert Donald, Jr., director and head of productions for HOWARD AND WYNDHAM is leaving the company at the end of June in order to return to his family's business interests in Aberdeen.

★

Mr. Bryan Davies, MP for Enfield North, has been appointed a member of the MEDICAL RESEARCH COUNCIL.

★

Mr. Henry T. Holland has been appointed financial director, Europe, for EATON CORPORATION, succeeding Mr. John M. Carmont, who is transferring to Eaton's headquarters in Cleveland, Ohio, to become assistant treasurer. Mr. H. K. Culham, has become accounting director, Europe.

★

Mr. Geoffrey Manning has been appointed managing director of HAWKE CABLE GLANDS, a member of the McKechnie Bros. Group. He takes up the post at the end of this month on the retirement of Mr. A. Herbert.

★

Mr. R. C. Smith has been appointed a director of SIDLAW INDUSTRIES. He is chairman of Scottish United Investors and a director of other companies.

★

Mr. T. W. Higgins is to become chairman of Leslie Langton Holdings, in succession to Mr. T. B. Langton who retires in March. Mr. D. E. Pearce and Mr. R. S. Langton have joined the Board and Mr. M. J. Langton has been appointed chairman of Langton Underwriting Agents, in succession to Mr. T. W. Higgins who continues as a director. Mr. J. W. Fraser has become managing director and Mr. M. T. Coulton, Mr. I. B. Gavine and Mr. G. Williamson have joined the Board. Mr. A. M. Hedderwick has joined the Board of Langton Investment Services. All companies are part of LESLIE LANGTON HOLDINGS.

★

Mr. G. Malcolm Murray has been appointed a director of the EDINBURGH AND DUNDEE INVESTMENT COMPANY. He is deputy general manager and investment manager of the Scottish Life Assurance Company.

★

Mr. T. G. Main, formerly manager of registration and new issues departments, BARCLAYS BANK (LONDON AND INTERNATIONAL), has been appointed a director of that company. He remains registrar of Barclays Bank.

★

Mr. A. S. W. Boxall has been appointed to the main Board of STAFLEX INTERNATIONAL.

★

Mr. S. D. Dale has been appointed to the Board of the SOUTHAMPTON/ISLE OF WIGHT AND SOUTH OF ENGLAND ROYAL MAIL STEAM PACKET COMPANY. Mr. Dale was formerly a director of William Denny Bros. and John I. Thornycroft.

★

Mr. Arthur Baldwin, chief executive of YORKSHIRE WATER AUTHORITY has retired and will be leaving the Authority in April.

★

Mr. J. R. Christie has been appointed group financial director of CLARKSON INTERNATIONAL TOOLS.

★

Mr. J. F. H. Baring is to retire from the Board of TRAFFORD PARK ESTATES because of pressure of other business commitments.

★

Mr. D. W. Barrett, Mr. L. R. Graham and Mr. E. Milner have been appointed associate directors of UNITED GAS INDUSTRIES and retain their present positions within the group.

★

Mr. M. J. Smith has succeeded Mr. J. N. Tollemache as managing director of AVERY LABEL SYSTEMS U.K.

★

Mr. William Davies has been appointed an associate director of AB ELECTRONIC COMPONENTS and managing director of AB Connectors, an operating division within the group.

★

Mr. N. W. Simpson has been appointed personnel director of ROSS POULTRY and will also be responsible for purchasing and transport. Mr. R. Pooley takes over responsibility for distribution within Buxted division. Mr. Simpson also joins the divisional Boards of Irish division and Sterling division.

★

Mr. A. M. Gray has been appointed technical director of TRIANGLE VALVE COMPANY, a subsidiary of the Triangle International Group.

★

Mr. John McQueston has joined the Board of TRANSFLEET SERVICES. He is a director of the Royal Bank of Scotland.

★

Mr. M. A. S. G. Stewart and Mr. C. G. S. Wilson have been appointed to the Board of STRONGWORK DIVING (INTERNATIONAL), a subsidary of Emerald Offshore Services. Mr. Stewart is manager of Strongwork's operations department and Mr. Wilson manager of its engineering services department.

★

Dr. Martin Jones has been appointed a director of NEVE ELECTRONIC HOLDINGS with particular responsibility for all engineering services in the group. Dr. Jones joined the company last year as group chief engineer.

★

Mr. Jeffrey N. Brown has been appointed marketing director of CHLORIDE LORIVAL.

★

Mr. Robin Shelley has been appointed director of marketing and contract services of RIGGING INTERNATIONAL. Mr. Shelley was formerly managing director of Sparrow's Contract Services.

★

Dr. Tony Daglish, who retired as director of safety and manufacturing co-ordination of Ciba-Geigy (UK) at the end of last year, has been appointed technical consultant to the industrial division of AIRWICK (UK).

★

Mr. Colin Millar has been named financial controller for HONEYWELL LTD. control systems Divisions at Bracknell. He replaced Mr. Robert Johnson, who becomes director, corporate financial audit department for Honeywell Inc.

★

Mr. John Morgan, divisional director of the Link House group's advertising periodicals division (which includes Exchange and Mart) has been appointed to the Board of LINK HOUSE PUBLICATIONS.

★

Mr. L. R. Pullen, managing director of KDG Instruments, has taken over as president of the SCIENTIFIC INSTRUMENT MANUFACTURERS' ASSOCIATION OF GREAT BRITAIN from Mrs. Mary Griffin, of Smiths Industries.

★

Mr. R. Perkins, managing director of Ransomes and Rapier, has been elected as president of the FEDERATION OF MANUFACTURERS OF CONSTRUCTION EQUIPMENT AND CRANES. The immediate past president is Mr. G. M. Warren.

★

Mr. Bill Cooke, previously chief engineer of EDDYSTONE RADIO has been appointed managing director of that company which is part of the GEC-Marconi Electronics concern, Marconi Communication Systems.

★

Mr. Ben Davies (a vice-chairman of Unigate) has been elected president of the DAIRY TRADE FEDERATION in succession to Mr. Nicholas Horsley (chairman of Northern Foods), who has completed his two years appointment.

★

Mr. R. M. Yorke has been nominated a member of the Special Panel of the TRANSPORT TRIBUNAL for three years.

★

Following the appointment of Mr. Efraim C. Varesio as acting chief executive of the ITALIAN INTERNATIONAL BANK, who will be assisted by Mr. Mario Perricone of the Banco di Sicilia the chairmanship of the executive committee has been assumed by Dr. Renato Paolucci of the Banco di Napoli. Other members of the executive committee are Mr. Rupert Raw (chairman of the Board of IIB); Dr. Antonio Venturu (Banco di Sicilia); Rag Franco Milani (Istituto Bancario San Paolo di Tornio); and Dr. Giorgio Mauretti (Monte dei Paschi di Siena).

ISSUE NEWS

J. Burrough OTC market

Dealings start to-day in the issued Ordinary capital of James Burrough on the over-the-counter market which is made by M. J. H. Nightingale. There are some 13,801,800 25p shares in issue and about 5 to 10 per cent. of the equity will be available in the market. James Burrough, which is the tenth company to come under the Nightingale wing, carries on the business of distillers of gin with Beefeater its principal brand. In addition to Beefeater the company produces and markets Borzoi Vodka.

Burrough has chosen the OTC market rather than obtain a stock exchange quotation because there are only 100 shareholders and the bulk of these are in family hands who are unwilling to sell.

Sales of the group have risen from £7.34m. in 1971-72 to £12.97m. in 1975-76 while over the same period profits before tax have moved from £1.74m. to £1.348m. with a setback in 1974-75 when the glass shortage forced the company to buy bottles on the Continent.

For the current year ending February 28, 1977, sales are forecast at £14.98m. (of which some 90 per cent. goes in exports) while profits are expected to be around £3.06m. This sharp increase in profits reflects price increases of about 17 per cent. and unquantified currency gains on the back of the fall in sterling. On the basis of these profits the Board expects to pay a final dividend of 2.704p per share which together with the interim already paid makes a total of 3.9p.

Nightingale feels that early dealing will start in the region of 65p for a capitalisation of £9m. At this level the dividend yield is 9.25 per cent. while the prospective p/e comes out at 6.2.

DOLLAR LOANS

A new three year loan of $1.5m. has been arranged by Alliance Investment and Morgan Guaranty Trust of New York.

Foreign and Colonial Investment Trust has also arranged a new three year Loan, but for a total of $8.5m., with Morgan Guaranty Trust. Part of the proceeds will be used to repay a Loan of 12m. Swiss Francs in February 1977.

GOODWIN SCRIP

R. Goodwin and Sons (Engineers) proposes a one-for-one scrip issue.

Scandinavian Bank raises profits to £6.5m.

SCANDINAVIAN BANK, the London-based international group, increased its pre-tax profits from £4.84m. to £6.5m. in 1976. The bank's net profits rose from £2.26m. to £3.19m.

The chairman, Mr. Lars-Erik Thunholm, reports that to support its expansion the bank also raised a $30m. seven year subordinated loan through a subsidiary, Scandinavian Finance. Together with share capital and reserves of £28.29m., this gives the bank a total capital base of £45.9m.

The chairman reports that loan demand was satisfactory.

Pending dividends timetable

For the convenience of readers the dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table. The dates shown are those of last year's announcements, except where the forthcoming Board meetings (indicated thus*) have been officially published. It should be emphasised that the dividends to be declared will not necessarily be at the amounts or rates per cent. shown in the column headed "Announcement last year." Preliminary profit figures usually accompany final dividend announcements.

	Date	Announcement last year
Albright and Wilson	Feb. 18	Final 12.8%
Alexanders Discount	Jan. 24	Final 12.6%
Allied Insulators	Feb. 19	Final 6.7%
Artagen Properties	Feb. 10	Final 5.1%
Associated Fisheries	Feb. 4	Final 1%
BAT Industries	Feb. 1	Final due
Bath and Portland	Feb. 17	Final 10.1%
British-American Tobacco	Feb. 3	Final 26.6%
British Enkalon	Feb. 16	Final 1.5%
British Sugar	Jan. 27	Final 6.5%
Brown (John)	Jan. 28	Int. 1.1%
Carrington Viyella	Feb. 16	Final 7.3%
*Barringtons	Feb. 26	Int. 6.1%
Dalgety	Feb. 11	Int. 7.3%
Decca	Feb. 5	Int. 16.6%
Dowty	Feb. 3	Int. 9.3%
Fitch Lovell	Jan. 30	Int. 8%
Gillett Bros.	Feb. 23	Final 12½%
Grand Metropolitan	Jan. 28	Final 6.3%
Guinness Peat	Jan. 29	Int. 18.5%
Henlys	Jan. 26	Final 27.3%
Hoover	Feb. 23	Final 40.2%
ICI	Feb. 24	Final 7½%
IMI	Feb. 17	Final 3.9%
Imperial Grp.	Feb. 8	Final 17.6%
*Inchcape	Jan. 27	Int. 6%
James (John)	Feb. 12	Int. 6%
*Kleinwort Benson	Mar. 15	Final 12.5%
Lake and Elliot	Feb. 27	Int. 8.6%
*Lloyds Bank	Feb. 13	Final 6.2%
Lond. Merchant Securities	Jan. 19	Int. due
*Lonrho	Jan. 26	Int. 5.5%
Marchwiel	Feb. 20	Final 12%
Midland Bank	Feb. 27	Sec. Int. 11.2%
*NatWest	Mar. 1	Final 6.6%
Neepsend	Feb. 28	Int. 5.1%
Peachey Property	Jan. 17	Final 1.5%
*Plessey	Jan. 27	Sec. Int. 6.1%
Ransomes Sims	Feb. 26	Final 7.1%
Redland	Jan. 13	Int. 9.7%
Rentokil	Feb. 27	Final 15.7%
Richardsons Westgarth	Jan. 22	Int. 3.1%
Security Services	Feb. 11	Final 6.6%
Smith Bros.	Feb. 27	Int. 3.3%
Trust Houses Forte	Feb. 19	Final 24.5%
Wedgwood	Feb. 19	Int. 2.8%
Westinghouse Brake	Feb. 3	Final 5.5%
Woolworth (F. W.)	Feb. 27	Final 16.3%

* Board meetings intimated. † Rights issue since made. ‡ Tax free. § Scrip issue since made from reserves.

Public Works Loan Board rates

* Non-quota loans B are 1 per cent. higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Equal repayments.

Effective from January 22, 1977.

	Quota loans repaid			Non-quota loans A* repaid		
Years	by EIP†	by ER‡	at maturity	by EIP†	by ER‡	at maturity
p to 5	12¾	12¾	13	14¼	14¼	14⅜
ver 5, up to 10	13	13¼	14¼	14¼	14⅜	14⅜
ver 10, up to 15	13¾	14⅛	14⅜	14½	14⅝	14⅞
ver 15, up to 25	14⅛	14⅛	14½	14⅝	15	15⅛
ver 25	14⅛	14⅜	14⅝	15	15⅛	15⅛

RECENT ISSUES

EQUITIES

Issue Price	Amount Paid Up	Latest Renunc. Date	1976/77 High	1976/77 Low	Stock	Closing Price	+ or −	Div. Net	Times Covered	Gross Yield	P/E Ratio
—		—	575	500	Rolinco Warrants	575		—	—	—	—
	F.P.		[illegible]	[illegible]	[illegible] Technologies [illegible]	£29⅝	−¼	Q$1.9		2.5	

FIXED INTEREST STOCKS

Issue Price	Amount Paid Up	Latest Renunc. Date	1976/77 High	1976/77 Low	Stock	Closing Price	+ or −
	F.P.	18/2	£100	£97½	Adams Foods 7% Conv. 1981-85	100	......
00	F.P.	—	100¼	100⅛	Agric. Mort. 13⅝% Bds. 1978	100¼	......
00	F.P.	—	100¼	100⅛	Agric. Mort. 14⅛% Bds. 1979	100¼	......
00	F.P.	—	100⅜	100¼	Agric. Mort. 14⅜% Bds. 1980	100⅜	......
1	F.P.	19/1	128	107½	Dunford & Elliot 11% Conv. Red. pref.	128	−10
94	F.P.	28/1	98½	96½	Essex Water 9% Red. Pref. 1982	98½	+½
00	£10	1/4	14¼	13¾	Mid Kent Water 9% Red. Pref. 1982	14¼	...
	F.P.	1/12	77	70	Newman Inds. 10% Cum. Pref.	77	+4
94	F.P.	7/1	98	96¼	Tendring Hundred W'works 9% Red Pf. 1981	98	+½
	F.P.	7/1	76	71	Willis Faber 8% Cum. Pref.	76	......

"RIGHTS" OFFERS

Issue Price	Amount Paid Up	Latest Renunc. Date		1976/77 High	1976/77 Low	Stock	Closing Price	+ or −
0	F.P.	—	—	51½	45	Aberdeen City of Land Assoc.	47	.....
4	F.P.	13/12	28/1	95	88	Assoc. Engineering	95	+1½
4	$A2	—	4/12	470	437	Broken Hill Props.	465	−5
0	F.P.	12/1	9/2	140	125	Sidlaw Ind'l	126	−2
1.75	F.P.	3/12	17/1	245	[illegible]	National Bank of Australasia	222	−8
1.78	F.P.	18/6	—	[illegible]	[illegible]	Western Mining	127	−2

Renunciation date usually last day for dealing free of stamp duty. a Placing price to public. b Figures based on prospectus estimate. d Dividend rate paid or payable on part capital, cover based on dividend on full capital. p Pence unless otherwise indicated. u Forecast dividend: cover based on previous year's earnings. N Figures based on prospectus or other official estimate for 1976 Gross. T Figures assumed. ‡ Cover allows for conversion of shares not now ranking for dividend or ranking only for restricted dividends. § Issued by tender. ‖ Offered to holders of Ordinary shares as a "rights." ** [illegible] S.Afr. cents. ‡ Rig[illegible] by way of capitalisation. †† Tender allotment price. ¶ Reintroduced. ¶¶ Issued in connection with reorganisation, merger or take-over. ∥ Introduction. ■ Issued to former Preference holders. ■ Allotment letters (or fully-paid). ● Provisional or partly-paid allotment letters. ★ With warrants. ★ After suspension. KD Kuwait Dinar

Marine Midland improves

BUFFALO, Jan. 23.

MARINE Midland Banks, Inc., has reported $3.39m. of consolidated income before securities transactions for the fourth quarter of 1976 and Federal Reserve approval of a cash dividend by its principal subsidiary, Marine Midland Bank. The profit compares with a loss of $11m. in the fourth quarter of 1975. It equals 27 cents per share in the 1976 period versus the loss of 89 cents a share in the 1975 period.

After securities transactions, net income for the fourth quarter of 1976 was $4.4m. versus a loss of $12.2m. in the fourth quarter of 1975. This is a profit of 35 cents per share in the 1976 period and a loss of 98 cents in the 1975 period.

The provision for loan losses in the fourth quarter of 1976 was $17.1m., down from $39.6m. in the fourth quarter of 1975.

For the year 1976, income before securities transactions was $9.4m. after a net tax credit of $7.9m. Comparable income was $16.4m. in 1975.

After giving effect to securities transactions, net income for 1976 was $13.1m. compared with $15m. in 1975. On a per share basis, income was $1.04 versus $1.19 for 1975.

Marine Midland Bank has been advised by the Federal Reserve Bank of New York that its application is approved to pay a dividend of $2.5m. in the first quarter to its parent company, Marine Midland Banks, Inc.

The bank dividends are a principal source of funds for payment by Marine Midland Banks, Inc., of shareholder dividends. They also are a principal source of funds for operating expenses which consist primarily of interest on outstanding debt. Mr. Edward W. Duffy, chairman of the Board of MMBI, states that the company has available sufficient funds to meet its interest and other estimated 1977 operating expenses.

Federal Law prohibits a member bank of the Federal Reserve system from declaring dividends during any calendar year without obtaining Federal Reserve approval if such dividends would exceed the sum of its net profits in the current year and its retained net profits for the prior two years.

Under this statutory formula there is a deficiency as of January 1, 1977, of $3.6m. Consequently, the bank must continue to obtain federal reserve approval to pay dividends in 1977 until its net profits exceed the deficiency plus dividends paid during 1977. U.N.S.

Fresh terms offered to Venezuela

By Tony Hawkins

AFTER Venezuela's rejection of the original loan terms submitted by a group of 18 banks for the planned $1.2bn. 7-year Euroloan that Venezuela is seeking, the banks have now offered terms that are slightly more attractive to the borrower.

Last month, Venezuela asked leading banks to submit proposals for a $1.2bn. 7-year loan and the group of 18 major banks put in a wholly underwritten bid on a spread of 1½ per cent. above Libor (London Interbank Offered Rate).

This was the same spread as Venezuela had obtained last year, since when margins have tended to come down. Venezuela, apparently seeking a spread of 1 per cent. or even ⅞ per cent. asked the banks to think again and they resubmitted their amended proposals on Friday.

It is understood that the new terms would provide a spread of 1 per cent. for that portion of the loan that matures in the first five years, rising to 1¼ per cent. for the loan portion maturing thereafter. The overall effect would be to produce an average spread of slightly more than 1⅛ compared with the originally offered 1½ per cent.

Banks' aid conditions to New York criticised

BY STEWART FLEMING

NEW YORK, Jan. 23.

NEW YORK City's big commercial banks have been accused of attempting a "financial coup d'etat" by the Speaker of the State Assembly Mr. Stanley Steingut, who was responding to the banks' conditions for further aid to the city.

Mr. Steingut claimed that the banks were trying to "wrest the reins of government from the hands of the people." He called for new State legislation to empower the State Goverment to appoint a member to the Board of directors to each bank and to pass new laws allowing public access to their deliberations on issues relating to public finance.

The Banks have called on the city to secure a five year extension of existing Federal loans and to establish a long term monitoring agency to supervise its finances. This would be in return for additional support in helping the city to overcome its fiscal crisis and to raise $1bn. The city has to present a plan for raising the finance in the next few weeks.

Mr. Steingut's proposals would appear to be too radical to secure widespread support now. They are being interpreted more as a warning to the banks not to interfere too deeply in the political processes during the year of an election for the mayor of New York City.

Unless the banks are ready to retreat from the position they have adopted, the omens for resolving the city's latest financing problems are threatening.

Capital increase sought by Bank Leumi

By L. Daniel

TEL AVIV, Jan. 23.

BANK LEUMI LE-ISRAEL—Israel's oldest and largest bank—intends to more than double its share capital from £I.1,750m. at present (roughly £50m.) to £I2bn. (£133m.) by the issue of 1,250m. new shares of £I1 each.

A proposal to this effect is to be put before an extraordinary general meeting to be held here on February 14.

Money and Exchanges

Bank of England Minimum Lending Rate 13¼ per cent.
(since January 21, 1977)

Expectations of an acceleration in the decline of short-term interest rates and considerable interest in the issue of a new long-dated tap stock were the major factors concerning the London money market last week.

Day-to-day credit was in slightly short supply at the beginning of the week, but the situation then grew progressively worse, aggravated by a constant repayment of the previous day's exceptionally large overnight advances to the market and a large excess of revenue payments to the Exchequer over Government disbursement, brought about by very heavy tax payments.

The issue of Treasury 13¾ per cent. 1993 as the new long tap in the gilt-edged market created a great amount of interest, and was a further contributory factor to the shortage of funds in the money market on Thursday.

The authorities gave assistance to the money market on each day and this was generally exceptionally large, although on Monday the scale of help was only described as large.

On Wednesday and Thursday the assistance to the market was accompanied by a signal on interest rates from the Bank of England. Part of the assistance was by way of seven-day loans to the discount houses, and this was to indicate that the downward pressure on interest rates was not to go too far.

Although no figure was put on the acceptable level of Minimum Lending Rate, the signal was generally interpreted as indicating that a cut of ½ per cent. would not be resisted.

Discount houses buying rates for three-month Treasury bills were close to indicating a cut of ½ per cent. in MLR from as early as Monday, and a fall of ¾ per cent. looked possible by Thursday. At the same time short-dated gilts were discounting a reduction of 1 per cent. in MLR. Money market rates were somewhat confused earlier in the week, with longer-term interbank rates declining in anticipation of a cut in MLR, while short-term rates increased prior to the application for the long-dated tap stock.

At the Treasury bill tender on Friday the average rate of discount fell by 0.5863 per cent. to 12.6694 per cent., and MLR was cut by ½ per cent. to 13¼ per cent.

Sterling was generally firm and steady in the foreign exchange market, although some selling developed on Thursday and it is probable that the authorities gave the pound a small amount of support. The selling reflected profit-taking after a steady rise, rather than any change in sentiment in the market.

In the early part of the week the Bank of England prevented too sharp a rise in the value of the pound by operating in the market to take in foreign currency for the reserves. Strong overseas interest in Government securities may have contributed to the demand for the pound.

Sterling finished the week at $1.7160-1.7170, a rise of 55 points from the previous Friday, and its trade-weighted depreciation since the Washington Currency Agreement, as calculated by the Bank of England, narrowed to 42.9 per cent. from 43.1 per cent.

The Italian lira was fairly steady, but probably received some support from the Italian central bank. Measures to protect the lira was scaled down at the beginning of the week, but trading was not very hectic and the Italian unit finished at L881¾ in terms of the dollar, compared with L877¾ at the end of the previous week.

The dollar's trade-weighted depreciation since the Washington Agreement, as calculated by Morgan Guaranty of New York, widened to 1.20 per cent. from 1.15 per cent.

Gold rose $1¼ on the week to $131¼-132¼.

Jan. 21 1977	Sterling Certificate of deposits	Interbank	Local Authority deposit*	Local Auth. negotiable bonds	Finance House Deposit	Company deposits	Discount market deposits	Treasury bills ϕ	Eligible Bank Bills ϕ	Fine Trade Bills ϕ
Overnight	—	13-14¼		—	—	14¾	13-14	—	—	—
2 days notice	—	—	14½-14⅝	—	—	—	—	—	—	—
7 days or 7 days notice		13½-14¼	14⅝-14¾	—	14½-15	—	13⅝-13¾	—	—	—
One month	13⅞-13⅝	13⅝-14⅛	14½-14⅝	15½-14½	14⅛-15	—	13¼-13¾	12¾	13½	14¾-14½
Two months	13⅝-13⅝	13⅜-14¼		14½-14	14⅜-14½	—	13-13½	12⅝	13⅛	14⅜-14¼
Three months	13⅛-13	13-14⅛	13¾-14	14-13½	13¾-14¼	—	12¾-13¼	12⅝	12⅞	14½-14
Six months	12⅝-12⅛	12½-13	13⅝-13¾	13¼-12½	12⅞-13¾	—	—	—	12	14½-13¾
Nine months	12⅝-12⅛	12⅛-12⅞		13¼-12¾	12⅞-13½	—	—	—	—	—
One year	12⅞-12⅛	12⅛-12⅞	13½-13⅝	13⅛-12½	12⅞-13½	—	—	—	—	—
Two years			14		—	—	—	—	—	—

Local authority and finance houses seven days' notice, others seven days' fixed. * Long-term local authority mortgage rates nominally three years 14 per cent.; four years 13¾-14¼ per cent.; five years 13¾-14¼ per cent. ϕ Bank bill rates in table are buying rates for prime paper. Buying rates for four-month bank bills 12⅞ per cent.; four-month trade bills 14¼-13¾ per cent.

Approximate selling rate for one-month Treasury bills 12 15/32 per cent.; two-month 12 17/32 per cent.; and three-month 12 7/16 per cent. Approximate selling rate for one-month bank bills 13¼ per cent.; two-month 12⅞ per cent.; and three-month 12 9/16 per cent.; one-month trade bills 14¾-14¼ per cent.; two-month 14¾-14¼ per cent.; and also three-month 14¼-13¾ per cent.

Finance House Rates (published by the Finance Houses Association) 15 per cent. from December 1, 1976. Clearing Bank Deposit Rates for small sums of seven days' notice 11 per cent. Clearing Bank Base Rates for lending 14 per cent. Treasury bill average tender rates of discount 12.6694 per cent.

FOREIGN EXCHANGES

Jan 21	Bank Rate %	Market Rates: Day's Spread	Market Rates: Close
New York	5½	1.7140-1.7175	1.7160-1.7170
Montreal	5½	1.7510-1.7570	1.7540-1.7550
Amsterdam	5	4.30-4.36	4.31½-4.32½
Brussels	8	65.10-65.50	65.25-65.40
Copenhagen	10	10.14-10.17½	10.15-10.17
Frankfurt	3½	4.11-4.14	4.12½-4.13½
Lisbon	6½	54.70-55.20	55.00-55.15
Madrid	7	117.50-118.25	117.55-118.10
Milan	15	1,511-1,515	1,513-1,514
Oslo	6	9.10-9.13	9.11½-9.12½
Paris	10½	8.54-8.55	8.53½-8.54½
Stockholm	8	7.26½-7.29½	7.28½-7.29½
Tokyo	6½	496-502	495-500
Vienna	4	29.15-29.40	29.25-29.35
Zurich	2	4.28-4.31	4.29½-4.30½

* Basic discount. † Rates given are for convertible franc. ‡ Financial franc 63.60-63.80.

OTHER MARKETS

		Notes Rates	
Argent'a†	439.55-483.75	Argentine	455-560
Australia	1.5714-1.5871	Austria	31½-33
Brazil	21.46-21.62	Belgium	65-65½
Finland	6.55-6.64	Brazil	[illegible]
Greece	63.75-64.86	Canada	1.75½-1.76½
Hong Kong	8.0000-8.0475	Denmark	10.10-10.5
Iran	117-126	France	8.45-8.65
Kuwait	0.490-0.506	Germany	4.05-4.15
Luxemb'g	65.25-65.40	Greece	70-75
Malaysia	4.3595-4.3775	Italy	1540-1640
N. Zealand	1.7327-1.7510	Japan	4.5-5.16
Saudi Arab.	6.00-6.10	Netherl'ds	4.25-4.40
Singapore	4.2105-4.2250	Norway	9.00-9.20
S. Africa	1.4852-1.4954	Portugal	56-61
U.S.	—	Spain	115-121
Canada		Switzerl'nd	4.20-4.40
C$1	—	U.S.	1.71-1.75
U.S. cents	98.94-98.97	Yugoslav'a	32½-34½

† Rate given is free rate.

GOLD MARKET

	Jan 21	Jan 20
Gold Bullion (a fine ounce)		
Close	$131¼-132¼	$132¾-133¼
Opening	$132¾-133½	$132¼-133
Morning fix'g	$133.0 (£77.515)	$132.7 (£77.529)
Afternoon fix'g	$132.25 (£77.49)	$133.1 (£77.514)
Gold Coins, domestically		
Krugerrand	$135½-137½ (£79-80)	$136½-138½ (£79½-80½)
New Sov'r'gns	$46½-48½ (£27-28)	$46-48 (£27-28)
Old Sov'r'gns	$44½-46½ (£26-27)	$44-46 (£26-27)
Gold Coins (internationally)		
Krugerrand	$135½-137½ (£79-80)	$136½-138½ (£79½-80½)
New Sov'r'gns	$45½-47½ (£26½-27½)	$46-48 (£27-28)
Old Sov'r'gns	$41½-43½ (£24-25)	$41½-43½ (£24¼-25¼)
$20 Eagles	$217-220	$217½-220½

EURO-CURRENCY INTEREST RATES*

Jan. 21	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder	W. German mark	Swiss franc
Short term†	13⅝-13⅞	4⅝-4⅞	7¼-7¾	6-6½	4½-4⅝	⅛-½
7 days notice	13¾-14¼	4⅝-4⅞	7½-8½	6-6½	4½-4⅝	⅞-1¼
Month	14-14½	5-5¼	8¼-8½	6-6½	4½-4⅝	⅞-1
Three months	13¼-13¾	5-5¼	8⅛-8⅜	6-6½	4⅝-4⅞	1⅛-1⅜
Six months	12¾-13¼	5⅝-5⅞	8⅛-8⅜	6-6½	4¾-5	1¼-1⅝
One year	12⅛-12⅝	5⅞-6⅛	8½-8¾	6-6½	5¼-5⅝	2¼-2⅝

Euro-French deposit rate: two-day 9½-10½ per cent.; seven-day 9½-10½ per cent.; one-month 10½-11½ per cent.; three-month 11½-12½ per cent.; six-month 12¼-12¾ per cent.; one year 12¼-12¾ per cent.

Longer-term Eurodollar deposits: two years 6⅛-6⅜ per cent.; three years 6⅞-7⅛ per cent.; four years 7⅛-7⅜ per cent.; five years 7⅜-7⅝ per cent.

The following rates were quoted for London normal certificates of deposit: one-month 4 13/16-4 15/16 per cent.; three-month 5 1/16-5 3/16 per cent.; six-month 5⅜-5½ per cent.; one year 5 15/16-6 1/16 per cent.

* Rates are nominal closing rates.

† Short-term rates are call for sterling, U.S. dollars and Canadian dollars; two days' notice for guilders and Swiss francs.

FORWARD RATES

	One month	Three month
New York	1.37-1.27 c. pm	3.42-3.32 c. pm
Montreal	0.95-0.85 c. pm	2.25-2.15 c. pm
Amst'dam	3⅛-2⅛ c. pm	7⅛-6⅛ c. pm
Brussels	35-15 c. pm	65-40 c. pm
Cop'hag'n	1 ore pm-1 ore dis	1 ore pm-3 ore dis
Frankfurt	3¼-2¼ pf. pm	8-6 pf. pm
Lisbon	20c. pm-05 c. dis	30-70 c. dis
Madrid	60-140 c. dis	420-520 c. dis
Milan	18-28 lire dis	75-95 lire dis
Oslo	6½-4½ ore pm	12½-10½ ore pm
Paris	2½-1½ c. pm	4¼-3¼ c. pm
Stockh'lm	2 ore pm-par	5-1 ore pm
Vienna	25-15 gro pm	52-42 gro pm
Zurich	5⅛-4⅛ c. pm	15-12 c. pm

Six-month forward U.S. dollar 5.70-5.60c pm and 12-month 10.40-10.30c pm.

SPECIAL DRAWING RIGHTS RATES

One SDR is equal to	Jan. 21	Jan. 19
Sterling	0.673893	0.671740
U.S. dollar	1.15539	1.15425
Belgian franc	42.6180	42.7101
Deutschemark	2.77351	2.78036
French franc	5.74648	5.70495
Italian lira	1019.00	1018.02
Japanese yen	335.525	334.617
Dutch guilder	2.90350	2.90815
Swedish krone	4.89770	4.89979
Swiss franc	2.88940	2.89465

Values are for currencies against the SDR as calculated by the International Monetary Fund in Washington.

EXCHANGE CROSS-RATES

Jan. 21	Frankfurt	New York	Paris	Brussels	London	A'sterdam	Zurich
Fr'nkf't	—	2.399-400	48.73-80	6.50-51	4.107-117	95.5-97	97.92-98.05
N. York	41.62-64	—	20.10-12	2.7130-25	1.7165-7175	39.76-78	39.92-94
Paris	207.00-40	4.968-978	—	13.475-505	8.5425-5450	197.75-6.05	198.61-9.71
Brussels	15.38-59	36.88-93	7.41-43	—	65.22-56	14.67-71	14.74-78
London	4.12½-13½	1.716-717	8.53½-54½	65.25-40	—	4.31½-32½	4.29½-30½
Am'rd'm	104.645-635	2.5117-42	50.515-665	6.8125-75	4.3065-311	—	100.50-55
Zurich	104.21-31	2.5025-35	50.28-55	6.78-79	4.294-2910	99.52-65	—

U.S. $ in Montreal. U.S. $=101.05-10 Canadian cents.
Canadian $ in New York. C$=98.94-98 U.S. cents. U.S. $ in Milan 881.80-2.30
Sterling in Milan 1512.3-13.50

MINING NOTEBOOK

Inspiration mixes giant cocktail

BY LODESTAR

NEVER IN my experience has the mining industry world-wide (although South Africa may be an honourable exception) ever run into such vociferous opposition from the environmentalists, or "econuts" as they are sometimes termed. The industry itself on the other hand seems by comparison to be tongue-tied in putting its case.

This particularly goes for Australia where uranium, and even coal, mining faces howls of protest not only from the environmental fraternity but also the trade unions who seem to have come under their sway.

In these circumstances it is nice to see a bit of industry drum-beating in America including dire warnings of the metal stringencies that will be suffered by future generations if mining developments continue to be hamstrung. The piece that I particularly liked came from Mr. R. C. Cole, one of the vice-presidents of Inspiration Consolidated Copper.

Mr. Cole was talking about what he described as over-stringent sulphur controls in Arizona's copper smelting industry which has been under heavy fire on pollution grounds.

He said that the highest concentration of SO2 ever recorded there was so low that if it were compared with a dry martini it would figure out to be equal to one jigger of vermouth in more than 400,000 gallons of gin, stirred not shaken one presumes. This is the sort of talk that the public can understand.

It was quoted in a hard-hitting address by Mr. R. L. Smith of Michigan Technological University who issued a clarion call to the mining industry to meet the cacophony of public criticism and the harassment by state and federal governments of a facet of life which is central to our very survival.

Let us hope the call is heard. This column will always be a willing sounding board in what Mr. Smith expects to be the even tougher battles ahead than those the industry has already survived.

More about Fred

On December 20 I was discussing here whether those on the uranium investment trail should back Fred. The gentleman in question was Denison Mines director Fred Jowsey who also heads two Canadian uranium hopefuls, Canuc Mines and Aggressive Mining.

The key to the medium-term outlook for Canuc shares, currently 150p, is the further drilling, due to begin in March, of the Elliot Lake prospect adjacent to two major producers there, Denison and the RTZ group's Rio Algom, and in an area on which Fred has been more or less weaned.

But the latest news comes from Aggressive which is rather less well known on this side of the Atlantic. The company's prime target is in the uranium rich district of Johan Beetz in Quebec where its prospect is bordered by areas being probed by the Denison-Imperial Oil partnership and Germany's Urangesellschaft.

After a five-month field programme, bulk sampling of ore grade material has dispelled fears that drilling results had not been an accurate measure of total uranium content. So the areas of "important mineralisation" outlined by drilling are now viewed with "unreserved optimism," Jowsey says.

This, he adds, will stimulate the considerable additional work aimed at "proving up Aggressive's high potential for large tonnage of low to medium grade open pit deposits of the Rossing type." Rossing is the big RTZ group operation in South-west Africa which reached production last year.

To follow up this initial success Aggressive needs money. Negotiations are thus in progress for the raising of new funds believed to be between $1m. and $1.5m.

This would also be used to further exploration of its Turner Township prospect in Ontario as well as the search for additional uranium-bearing ground in other areas.

Aggressive thus looks like living up to its name. Jowsey is encouraged by what he describes as the "dramatic" rise in uranium prices despite which the nuclear material is maintaining its competitive advantage over fossil energy fuels.

Sally Malay

Spot sale prices have ranged up to $50 and $60 a pound compared with only $7 to $8 not so long ago. Aggressive, like Canuc, has a long way to go before it will be in a position to take productive advantage of the uranium boom, but the shares are regarded on the other side of the water as an interesting speculation. Present London price is 27p.

Having got the Blue Spec gold-antimony mine up in Western Australia's Pilbara district to production the down-under end of the big Anglo American Corporation group is hot on the trail of new fields to conquer.

Melbourne-based managing director Clive Hildebrand indicates that the prime target is the Sally Malay nickel prospect near Turkey Creek in the north-eastern corner of Western Australia. Anglo has been working there since 1972 and has put down 34 diamond drill holes. It still has two rigs at work with another on standby.

Exploitation of the prospect is still only a long-term possibility, but Hildebrand reckons that by the end of the year enough information should have been acquired for a decision to be made whether or not to go ahead with a full-scale feasibility study.

The company has not disclosed any tonnage estimates, but the local gossip is that about 4m. tonnes containing 2 per cent. nickel are indicated to date and that the objective of the further work being done is at least to double the prospective tonnage.

Meanwhile, all those interested in mining in Western Australia should have their eyes fixed on February 19. This is the date of the state election.

In view of the industry's sad experience under the Federal Labor Government in Canberra fingers will be kept crossed that Sir Charles Court continues in office as a result of what looks likely to be a fairly close run fight.

Apart from purely political considerations he is regarded, I gather, by at least one of the world mining giants involved in the state as an essential driving force in the big task of furthering the region's natural resource development. I would go along with this in the light of the various discussions I have had with Sir Charles in Perth.

While there's life

My Australian "whatever happened to series" comes round to International Mining Corporation which achieved such notoriety in the great nickel boom under the leadership of Mrs. Millie Phillips.

Well, the shares are 6p and the company at least still struggles on even though it has been abandoned by its powerful farm-in partners, Esso, Le Nickel and Amex, in various prospecting ventures.

IMC is now pinning its exploration faith in the uranium-rich Northern Territory where it plans to extend its prospecting activities in the areas there that it acquired last October.

But here again, as with most junior mining concerns, it is perforce seeking "major" partners. So the only comforting message for long-suffering shareholders is that while there's life there's hope.

* * *

There was a welcome thump on my desk recently. It was the 1977 edition of Skinner's Mining International Year Book now in its 90th year of publication. I have been making use of its invaluable information for nigh on half that time.

Its 675 pages contain details of the world's mining companies both large and small as well as a host of other data. Price post-paid is £11 (£16 by air-mail) and it is obtainable from 10, Bolt Court, London EC4A 3HL.

INSURANCE

Prudent companies take out cover for book debts

BY OUR INSURANCE CORRESPONDENT

LISTENING AS I do each morning to the BBC Today news programme last week I heard of a small trader who had lost most of his accounting records by fire or in one of the recent explosions and was, therefore, likely to be in financial difficulty. Very unfortunate, but it was not made clear whether he had any insurance, though I took it from the tone of the report that he had not.

I think it probable that even some of the best insured commercial policy-holders do not have the special kind of cover necessary to protect themselves against loss of accounting records—what insurers call book debts insurance.

At this point I should say that there is a clear distinction between book debts insurance and business interruption, loss-of-profits cover.

No protection

The firm that has full business-interruption cover is protected for its loss of business and increased cost of working when its premises have been damaged or detroyed, but under that policy it has no protection for money due but not paid on transactions for goods delivered and services rendered, concluded before the loss.

Furthermore, it is not normally practicable for book-debts cover to be incorporated in a business interruption policy, and market practice is to sell book-debts cover separately.

Insurers pay after the damage, or destruction by specified perils (usually fire or similar perils) of accounting books and other records, resulting in the failure of the policy-holder to collect, either in part or entirely, debts due.

In providing this kind of cover insurers will usually require the would-be policy-holder at the outset to protect his records by installing fire-resisting cabinets or safes to an approved standard, and it is then a rule that the records be housed therein not just when the premises are closed, but whenever the records are not in use.

This prerequisite is usually enforced by a warranty in the policy, with all theoretical legal consequences that this entails; but I think in practice most insurers treat failure as a breach of condition, allowing them to refuse payment on a particular claim rather than to avoid the policy in its entirety, as in strict legal theory is their entitlement.

Circumstances alter cases, and the individual policy-holders can negotiate with insurers for his own security system, subject to adjustment of premium in consequence. But when a system has been agreed, the policy-holder must conform, and inform insurers of any change he wishes to make lest he falls foul of the terms of the warranty.

Basic to this kind of cover is that the policy-holder has to declare month-by-month the total amount of the balances outstanding in his books, in rather similar fashion to declarations under his fire and perils policies on stock.

At the start of each insurance year he must expect in the light of past experience, the maximum for which he should arrange his cover.

Allowing for monthly fluctuations and with an eye on maximum, he should over-insure. The monthly declaration is used by insurers at the year-end, through the premium rebate clause in the policy, to provide a refund of any overpayment of premium in excess of the monthly average amount of balances at risk.

Normally, insurers guard against wide fluctuations by limiting this refund to 50 per cent. of the premium paid at the outset.

At the other end of the scale there is the normal commercial sanction against the policy-holder who gets his sums wrong and under-insures. There is an average condition whereby insurers pay only their due proportion of any claim.

Minimise loss

If a claim is made, the latest monthly declaration submitted is used as basis for loss settlement. In support, the policy-holder must produce bank statements to show what, if any, money which can be offset has been received in the interim.

Adjustment has also to be made for his normal level of bad debts. The policy-holder has to do all he can to minimise the loss, and in this can of course incur extra trading expense, in tracing clients, checking what is owed to him and if need be trying to extract it.

Provided insurers agree with the steps he is taking they will meet the cost of these, subject always to the policy limits and the average condition.

Brokers' Bill at first stage

BY OUR INSURANCE CORRESPONDENT

A FURTHER STEP was taken on Friday towards the control and regulation of the U.K. Insurance Broking industry when the Insurance Brokers (Registration) Bill was published. This is a private member's Bill, sponsored by Mr. John Page, and is scheduled to have its second reading next Friday.

The main purpose of the Bill is to establish a system of registration of insurance brokers that would be administered by the Broking Professional Organisation.

It would ensure that all insurance brokers would have a sufficiently high standard of competence and conduct and that their financial resources were adequate.

The proposals contained in the Bill follow very closely those put forward by the British Insurance Brokers Council in its Consultative Document on the Regulation of Insurance Brokers, details of which were published last November.

It is proposed that all people, partnerships or corporate bodies wishing to operate as insurance brokers and use the name would have to register with the Insurance Brokers Registration Council set up under the Bill.

The registration requirements envisaged are that everyone involved would be of good character and have either a professional qualification and at least three years' practical experience, or five years' experience.

The trading organisation under the terms of the Bill would require a minimum paid-up capital of £1,000 and have to submit regular audited accounts. Adequate professional indemnity cover would have to be taken out.

The Bill makes provision for the Council to set up a compensation fund to meet claims by the public in the event of a broker going insolvent and this would be financed by all insurance brokers on the register. Finally, members would have to conform with a code of conduct laid down by the Council.

The Bill would make it a punishable offence for all people and corporate bodies not on the register to describe themselves as insurance brokers.

The Council would be empowered to remove members from the register for failure to comply with the proposed standards and the Bill lists reasons for withdrawal and gives details of the Appeals procedures.

The Council would consist of 12 members, including the chairman, nominated by the BIBC, four, including an accountant nominated by the Secretary of State for Trade, and one nominated by the president of the Law Society.

INSURANCE BASE RATES

* Property Growth	13¼%
Cannon Insurance	13¼%

* Address shown under Insurance and Property Bond table.

OVERSEAS MARKETS

EUROBONDS

BY TONY HAWKINS

Difficult week for secondary market

THE COMBINATION of a demoralised New York bond market, rising Eurodollar interest rates and more than $1½bn. worth of new issues so far this year, proved too much for the secondary market last week.

By midweek, prices were showing falls of up to two points but better news from New York and a steadier tone in Eurodollar deposits encouraged some buyers back into the market at the lower levels and the market recouped anything from one-quarter to one-third of its falls late in the week.

But the general weakness was not confined to the dollar sector. Canadian issues too had a poor week, while Deutschemark prices also drifted lower, with dealers saying that funds were being diverted from the Euromark sector for investment in the U.K. gilt market.

The setback to the secondary market since it peaked out at the end of the first week of January must be causing some rethinking of strategy on the part of new issue managers. Accordingly, although the primary market has built up an impressive momentum in the past fortnight, it will come as no surprise to see a little holding back over the next week or so as managers await market developments. The long-awaited Venezuelan bond issue is scheduled to be launched next week and the terms are keenly awaited.

The news that France is borrowing again on a significant scale in the medium term syndicated credit market came as no surprise when set against the evidence of growing investor resistance to French names in the bond markets.

In the last two years, France has been a major bond market borrower with loans of $1.16bn. in 1975 (when it was the largest country borrower) and of $1¼bn. last year when it was second only to Canada. But French names have not performed impressively in recent secondary market trading and the rather dismal debut last week by the SNCF floater underlined this situation. The French Railways floating rate note issue of $50m. was priced at par on a minimum coupon of 6¼ per cent. It has a final maturity of 20 years and is, in fact, the first floater in this market by a non-bank borrower. Accordingly, it had been widely argued that the minimum coupon needed to be rather higher than 6¼ per cent., or, possibly, the notes priced at a discount. This was not to be, and when the market opened SNCF traded as low as 97¾-98¼ at one stage before closing a shade harder at 98-98½.

It is difficult to conceive of a more unpromising backdrop to the Credit Lyonnais floater—on a 6 per cent. minimum coupon over 6 years—announced on Thursday. Although the 6 per cent. interest rate compares favourably with the Banque Nationale de Paris 5¾ per cent. minimum (and this issue was twice increased in size from $40m. originally to $70m.) the fact remains that Credit Lyonnais is seeking $80m. and also that the BNP floater is currently standing at 98¼ yielding 6½ per cent. This is more than an investor is likely to get from buying Credit Lyonnais at par and is still further justification for those arguing that, other than in exceptional circumstances, it makes more sense to buy in the secondary market than new issues just at the moment.

The two-tranche Mobil issue was beraly traded last week closing at 98¼/99 after being priced at 99½. The fact that there was virtually no turnover and no market in the paper implies that the bulk of the issue is with the managers—UBS (Securities)—or has been placed with its clients.

Canadians had a difficult week and the Credit Foncier Can$30m. 5-year issue, having been priced at par, opened at 97¾/98 but closed slightly higher. Clearly, the issue had not been at all firmly placed. The two-tranche Royal Bank of Canada issues, which had enjoyed sufficient support for the coupons to be cut by ¼ per cent. in each case, were trading well below issue price at the week-end, when they were quoted at 98¾/99 after being priced at par.

One reason for the relative weakness of the Canadians was that the yield gap between Canadian and U.S.-dollar denominated Eurobonds had narrowed with the retreat of U.S. names, thereby making some Canadian paper look vulnerable.

Provided there is something of a pause in new offerings and as long as New York can offer a stronger lead, secondary market prices should be steadier this week, but given the uncertainties in respect of interest rates and the economic policies of President Carter, it would be rash to predict a resumption of the bull trend.

EUROBOND TURNOVER
Nominal Value
$m.
Week ended
Jan. 21

	U.S.$ Bonds	Others	Total
Cedel	302.0	132.3	434.3
Euroclear	915.9	130.4	1,046.3

Indices

NEW YORK -DOW JONES

	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 14	1976/77 High	1976/77 Low	Since compilation High	Since compilation Low
Industrial	962.43	959.03	968.67	962.43	967.25	972.16	1014.79 (21/9)	858.71 (2/1)	1051.70 (11/1/73)	41.22 (2/7/32)
Home B'nds*	91.92	91.96	91.81	92.01	92.43	92.57	92.57 (6/1/77)	85.68 (13/1)	—	—
Transport	230.81	231.29	233.30	231.82	232.81	233.68	237.52 (3/1/77)	175.69 (2/1)	279.88 (7/2/69)	13.23 (8/7/32)
Utilities	109.57	108.58	108.77	108.51	108.46	108.22	109.57 (21/1/77)	84.8 (26/5)	163.32 (20/4/65)	10.58 (28/4/42)
Trading vol 000's ‡	23,950	26,520	27,120	24,580	21,960	24,480	—	—	—	—

* Basis of index changed from July 1.

	Jan. 14	Jan. 7	Dec. 31	Year ago (approx.)
Ind. div. yield %	4.21	4.16	4.08	4.02

STANDARDS AND POORS

	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 14	1976/77 High	1976/77 Low	Since compilation High	Since compilation Low
*Industrials	114.48	114.09	115.15	114.55	115.02	115.42	120.89 (21/9)	101.64 (2/1)	134.64 (11/1/73)	3.52 (30/6/32)
†Composite	103.32	102.97	103.85	103.32	103.73	104.01	107.83 (21/9)	90.90 (2/1)	120.24 (11/1/73)	4.40 (1/6/32)

	Jan. 19	Jan. 12	Jan. 5	Year ago (approx)
Ind. div. yield %	3.77	3.77	3.71	3.42
Ind. P/E Ratio	11.24	11.21	11.36	13.53
Long Govt. Bond yield	6.91	6.81	6.57	6.81

N.Y.S.E. ALL COMMON.

Jan. 21	Jan. 20	Jan. 19	Jan. 18	1976/77 High	1976/77 Low
56.15	55.95	56.36	56.04	57.88 (31/12)	47.06 (2/1/76)

Rises and Falls	Jan. 21
Issues Traded	1,907
Up	933
Down	564
Same	410
New Highs	80
New Lows	6

	Jan. 21	Jan. 20	Jan. 19	Jan. 18	1976/77 High	1976/77 Low
MONTREAL Industrial	175.32	175.52	176.62	175.62	207.53 (19/5)	161.54 (30/11)
Combined	175.55	175.35	175.49	175.70	185.78 (20/5)	162.18 (30/11)
TORONTO Composite	996.6	994.02	996.39	992.6	1198.2 (13/5/76)	920.1 (30/11/76)
JOHANNESBURG Gold	185.4	—	165.7	164.6	228.7 (12/3)	115.5 (25/8)
Industrials	186.1	185.8	185.8	186.7	215.8 (21/5)	175.9 (30/11)

	Jan. 21	Previous	1976-77 High	1976-77 Low
Australia (a)	441.19	441.16	502.65 (19/8)	414.89 (26/11)
Belgium (b)	95.93	96.33	113.16 (6/3)	87.15 (25/10)
Denmark (d)	100.87	100.49	117.70 (19/8)	96.48 (1/12)
France (e)	57.0	57.7	74.3 (6/5)	51.0 (1/12)
Germany (f)	724.5	733.5	821.7 (17/5)	687.7 (29/10)
Holland (g)	83.3	84.0	105.5 (3/5)	77.9 (15/10)
Hongkong (h)	442.33	442.40	465.33 (17/5)	354.05 (2/1)
Italy (k)	71.68	71.16	91.57 (25/2)	64.35 (10/11)
Japan (m)	380.44	378.48	384.14 (4/1/77)	326.28 (6/1)
Singapore (n)	256.12	257.70	286.16 (3/8)	234.50 (2/1)
Spain (p)	96.79	96.69	100.79 (7/6)	71.44 (30/12)
Sweden (q)	371.49	378.40	476.36 (10/6)	366.61 (6/11)
Switz'rl'd (r)	289.1	290.4	298.2 (1/4)	260.2 (15/11)

Indices and base dates (all base values 100 except NYSE All Common—50, Standards and Poors—10 and Toronto 300-1,000, the last-named based on 1975. (a) Sydney All Ord. (b) Belgian SE 31/12/63. (d) Copenhagen SE 1/1/73 (e) Paris Bourse 1961. (f) Commerzbank December, 1953. (g) Amsterdam Industrial 1970. (h) Hang Seng Bank 31/7/64. (k) Milan 2/1/73. (m) Tokyo New SE 4/1/68. (n) Straits Times 1966. (p) Madrid SE 31/12/76. (q) Stockholm Industrials 1/1/58. (r) Swiss Bank Corp 31/12/58. (u) Unavailable. ‡ Excluding bonds. * 400 Industrials. † 400 Inds. 40 Utilities, 40 Finance and 20 Transport (c) Closed.

TEL AVIV STOCK EXCHANGE

Company	Prices Jan. 23 1977	Change on the week
Banking, Insurance and Finance		
Bank Leumi Le Israel	289	—8.0
I.D.B. Bankholding	291	+2.5
Bank Hapoalim Br.	350	+4.0
Union Bank of Israel Br.	529	+19.0
United Mizrahi Bank	211	+4.0
Hassneh Insurance Br.	395	+19.0
Wolfson Clore Mayer Br.	133	+10.0
General Mtge. Bank Br.	282	—3.0
'Tefahot' Israel Mort. Bank Br.	348	+38.0
Land Development		
Africa-Israel Invest. I £10	571	+13.0
Israel Land Devel. Br	179	+3.0
Property and Building	263.5	+5.5
Mehadrin	487.5	—0.5
Public Utility		
Israel Electric Corp.	340	+64.0
Investment Companies		
Bank Leumi Invest	289	+8.0
Discount Bank Invest Br.	275	+16.0
'CLAL' Israel Invest	225	—
'CLAL' Industries	206	—4.0
Commercial and Industrial		
Alliance Tire & Rubber	875	—
Elco Br.	390	+34.0
Argaman Textile Br	279	+21.0
'Ata' Textile 'B'	199	+15.0
Dubek Br	471.5	+21.5
Elec. Wire & Cable Br.	114.5	+2.5
Solel Boneh 10% Pref. Br.	390	+10.0
American Israeli Paper Mills	242	+21.0
Assis	235	+42.0
Tall Manuf. of Plywood Br.	194	+16.0
Elite	358	+30.0
Polygon	273	—15.5
Teva 'Reg'	1096	+28.0
Fuel and Oil		
Delek	227.5	+2.5

Source: Bank Leumi Le Israel, Tel Aviv.

AUSTRALIAN WEEKLY LIST

Australian $	Jan. 31	Jan. 14
Advertiser Newspaper	†1.53	†1.60
Ansett Transport	†1.15	†1.15
Assd. Securities	†0.41	†0.41
Aust. Guarantee	‡1.40	†1.25
Aust. Paper M'uf'rg.	†1.27	†1.23
Boral	†1.76	†1.82
Bramble Inds.	†1.50	†1.40
Burns Philip	†2.00	†2.13
Carpenter (W.R.)	†1.21	†1.20
Castlemaine Perkins	†3.60	†3.60
Coal & Allied	†1.60	†1.62
Commercial Bank	†2.50	†2.67
Commercial Union	†0.54	†0.63
Commonw'lth Mining	2.50	†2.40
Grace Bros	†1.80	†1.75
Hardie Asbestos	†5.50	†5.50
Herald & Weekly	†2.00	†1.94
Humes	†0.70	†0.75

Australian $	Jan. 21	Jan. 14
Kiwi Int.	†0.98	†0.98
M.L.C.	†2.45	†2.45
Mauri Bros.	†0.55	†0.56
Mayne Nickless	†1.48	†1.48
Nylex Corporation	†0.31	†0.33
Olympic Cons	†0.45	†0.46
Overseas Corporation	†1.22	‡1.21
Petersville	†0.74	†0.74
Queensland Cement	†1.34	‡1.30
QBE	†1.22	†1.20
Rocla Industries	†0.70	†0.68
Swan Brewery	†1.32	†1.32
TV Corporation	†1.05	†1.05
Thiess	†2.00	†2.05
Thomas Nat. Trans.	†1.55	†1.58
Tooheys	†1.02	†1.09
Woodside Burmah	†1.25	†1.27

† Buyer. ‡ Seller.

HONG KONG

Hong Kong $	Jan. 21	Jan. 14
Govt. Loan 1948	87.00	87.00
Amalgamated Rubber	1.55	1.54
Bowaters	—	—
China Light & Power	19.40	19.30
City Hotels	†57.00	†56.50
Cosmopolitan Properties	—	—
Cross Harbour Tunnel	9.65	9.71
E. Asia Navigation	5.90	6.15
Hong Kong Aircraft	65.00	63.50
HongKng&WhmpaoDock	10.10	10.20
Hong Kong Electric	5.45	5.40
HongKongKowloon Wharf	16.50	16.30
Hong Kong Land Invest	7.80	7.70
Hong Kong Shanghai Bank	20.70	20.30
Hong Kong Shanghai Hotels	13.80	13.70
Hutchison International	3.35	3.33
Inter. Pacific Securities	6.70	6.60
Jardine Matheson	18.90	18.70
Jardine Secs	7.55	7.50
Rubber	1.60	1.57
Sime Darby	†6.40	6.20
Southn. Pac. Prop.	†0.62	†0.65
Southsea Textile	†27.60	—
Swire Pacific A	9.30	9.25
Textile Alliance	—	—
Textile Corp of Hong Kong	—	—
Wheelock Marden	2.70	2.75
Wheelock Maritime	4.305	4.40
Winsor Industrial	2.05	2.10
Wyncor	7.40	7.20

† Buyer. ‡ Seller. — Unquoted.

SINGAPORE STOCKS

Jan. 21	$
Industrials	
Bovis	0.51
Boustead Co.	—
Boustead Bhd	3.74
Dunlop	3.10
Esso	1.73
Fraser Neave	3.96
Haw Par	1.16
Hume Ind.	1.82
Inchcape	2.34
Jardine	2.05
Malay Brew.	†5.10
Malay Cemt.	2.52
Mal. Tobacco	—
Met. Bx (Sing)	1.58
Ov's Chin. Bk	7.40
Pan Electric	2.04
Robinson Co.	1.65
Rothman	‡3.10
Shell	3.42
Sime Darby	3.32
Cold Storage	3.10
Straits Steam	3.08
Straits Times (1975) Ltd.	†4.00
Straits Trad'g	5.50
Temenggong	—
Times Pub. Berhad	3.36
U. Engineers	1.73
U. Ov's. Bk.	3.34
Wearne	2.73
Tractor	3.22
Chemical	3.90
Will'm Jacks.	1.33
Rubbers	
Batu Lintang	1.06
Dunl'p Estate	†1.70
Kempas	2.50
Tins	
Austral. Am.	‡3.72
Berjuntai	12.65
Kamper	2.48
Kramat	2.98
Kuchai	†0.46
Lower Perak	1.78
Petaling Tin	4.50
Supreme Cp.	1.43
Tongkah Harb'r	2.06

† Buyer ‡ Seller. — Unquoted

JOHANNESBURG

MINES January 21	Rand	+ or —
Anglo American Corpn.	3.87	
Charter Consolidated	3.55	+0.05
East Driefontein	9.35	—0.15
Elsburg	1.35	—0.10
Harmony	†4.25	—0.15
Kinross	4.10	
Rustenburg Platinum	1.62	—0.03
St Helena	†19.25	
South Vaal	5.30	+0.10
Gold Fields SA	19.00	—0.20
Union Corporation	3.85	
De Beers Deferred	3.30	—0.02
Blyvooruitzicht	†5.70	+0.05
East Rand Pty.	4.40	—0.16
Free State Geduld	17.25	
Stilfontein	2.48	—0.02
West Driefontein	39.50	+0.25
Western Holdings	‡24.25	+0.25
C. G. Smith Sugar	5.80	
Sorec	0.55	
SA Breweries	0.84	+0.01
Tiger Oats and Nat. Milling	8.65	—0.07
INDUSTRIALS		
African Explos. and Chem.	2.83	
Anglo-Amer. Industrial	8.10	
Barlow Rand	2.86	
CNA Investments	†1.48	—0.02
Currie Finance	†0.45	+0.01
De Beers Industrial	†7.40	
Edgars Consolidated Inv.	2.45	+0.05
Edgars Stores	†27.00	
Ever Ready SA	1.25	
Federale Volksbeleggings	2.25	
Greatermans Stores	†2.95	
Guardian Assurance (SA)	1.15	
Hulletts	1.55	
LTA	†1.50	+0.03
McCarthy Rodway	0.62	
NedBank	1.95	
OK Bazaars	6.60	
Premier Milling	†6.40	—0.02
Pretoria Cement	2.85	—0.05
Protea Holdings	0.74	—0.01
Rand Mines Properties	1.85	+0.05
Rembrandt Group	2.57	+0.02
Retco	0.34	
Sage Holdings	1.30	—0.02
SAPPI	1.72	—0.03

CANADIAN WEEKLY LIST

Stock	Jan. 21	Jan. 14
Alberta Gas Tk Line A	13⅞	14
Argus Corp. Ltd.	28½	†28½
Brit. Colum. Tele	13⅛	13¼
Bethlehem Copper	11¾	12
Can. Packer Ltd.	18	18⅛
Can. Perm. Mort	17⅞	17½
Can. Investment Fund	4.46	4.53
Can. Pac. Inv. Cv. Pf A	†36¼	†35¾
Canron	21½	†22
Conwest Exploration	†5.10	†5.10
Cornat Ind.	4.90	5.12
Cr. Zellerbach Can.	†18¼	†17
Dom. Foundries	25½	25½
Dom. Stores Ltd.	15	15
Dom. Textiles Co.	7¼	7
Fraser Co. Ltd.	†22	22½
Great Lakes Paper	30	30½
Husky Oil Canada	22	19¾
Labatt John	17⅛	17¼
Labrador Mining	†30	30½
Nat. Drug & Chemical	†4.85	4.85
N. Canadian Oils	8¼	8
Oakwood Pet	1.45	1.49
Petrofina	16¾	†16½
Redpath	†27⅛	27¼
Steinberg 'A'	14⅛	14¾
Tecalt Corp Ltd.	8¾	5.00
Trers Grp. "A"	15	14¾
Western Decalta Pet.	‡8½	8

† Bid. — Unquoted. * Toronto closed. Montreal prices substituted.

AUSTRALIA

Jan. 21	Aust. $	+ or —
ACMIL	†0.51	+0.01
Acrow Australia	‡0.65	+0.05
Adelaide Brighton Cem50c	†1.28	—
Allied Mnts-Trdg. Indus. $1	†1.50	—
Ampol Exploration	†1.05	—0.05
Ampol Petroleum	†0.64	—0.01
Assoc. Minerals	†2.40	+0.10
Assoc. Pulp Paper $1	†0.77	—
Assoc. Con. Industries	†1.54	—
Aust. Foundation Invest.	†0.94	—
A.N.I.	†1.20	—
Aust. Oil & Gas	†0.11	—
Blue Metal Ind.	†0.81	—0.01
Bougainville Copper	†1.27	+0.01
Broken Hill Proprietary	†7.52	+0.06
BH. South	†1.05	+0.02
Carlton United Brewery	†1.65	—
G. J. Coles	†1.39	—
CSR ($1)	†3.50	—0.08
Cons. Goldfield Aust	‡2.00	—0.02
Container ($1)	†1.52	—
Conzinc Riotinto	†2.98	—0.02
Costain Australia (25c)	†1.75	—
Dunlop Rubber ($1)	†0.97	—0.01
ESCOR	†0.65	—
Elder Smith ($1)	†2.05	—
E.Z. Industries	†2.90	+0.05
Gen. Property Trust	†1.24	—0.01
Hamersley	†2.70	—0.02
Hill 50 Uranium NL	†0.11	—
Hooker	†0.70	—0.02
I.C.I. Australia	†1.73	—
I.A.C. Holdings	†0.70	—
Inter-Copper	†0.28	—
Jennings Industries	†1.24	—0.01
Jones (David)	†0.95	—0.05
Metals Exploration	†0.32	—
MIM Holdings	†2.49	+0.01
Myer Emporium	†2.02	+0.02
News	†1.96	+0.01
Nicholas International	†0.88	—
North Broken H'dings (50c)	†1.10	—
Oakbridge	†1.05	—0.01
Oil Search	†0.09	—
Pioneer Concrete	†1.08	—0.08
Reckitt & Colman	†3.40	+0.10
H. C. Sleigh	†0.63	—
Southland Mining	†0.25	—
Stocks & Holdings	†2.70	—
Tooth ($1)	†1.65	—
Waltons	†0.77	+0.02
Western Mining (50 cents)	†1.50	—0.01
Woolworths	†1.18	—0.02

Hongkong Bank deal with State Invest. House

THE BOARDS of State Investment House, and Wardley, a 100 per cent owned merchant banking subsidiary of The Hongkong and Shanghai Banking Corporation, announce an agreement for Wardley to subscribe for an issue of new shares sufficient to give Wardley a 25 per cent. interest in the enlarged capital of State Investment House.

The investment by The Hongkong Bank Group is not only an indication of their confidence in the management of State Investment House but also their faith in the prospects for the Philippine economy.

OVERSEAS SHARE INFORMATION

NEW YORK

1976/77 High	1976/77 Low	Stock	Jan. 21
54¾	37¾	Abbot Labs.	44⅞
14⅝	7¾	Addressograph	15½
35⅞	22½	Aetna Life & Cas	32
39¾	30	Air Products	31¾
34⅝	17¼	Airco	31⅞
30⅛	19⅝	Alcan Aluminium	24
60¼	38½	Alcoa	56⅛
25½	17⅝	Allegheny Ldlm.	24¼
22¼	16½	Allegheny Power	21⅝
46¼	33½	Allied Chemical	46¼
59¼	41	Allied Stores	42½
29¾	11⅞	Allis Chalmers	24⅞
60⅛	46¾	Amax	55⅜
36	16⅝	Amerada Hess	34¾
16¼	8⅝	Amer. Airlines	14⅝
45⅝	38½	Amer. Brands	41⅛
41	19⅞	Amer. Broadcast.	39⅝
39¾	30⅝	Amer. Can	38⅞
28⅞	23½	Amer. Cyanamid	25⅛
25½	20⅛	Amer. Elec. Pow.	25⅛
41⅞	31	Amer. Express	37¼
37¾	27⅛	Amer. Home Prod	28⅜
14½	5⅞	Amer. Medical	13¾
7¾	3¾	Amer. Motors	4⅛
44¾	32¾	Amer. Nat. Gas	42¾
30	16¾	Amer. Standard	29¾
33¼	24½	American Stores	30⅞
64⅝	50⅞	Amer. Tel. & Tel.	63⅛
24⅝	17⅞	AMF	22¼
9⅝	4¾	Ampex	9¼
32½	22⅞	Anchor Hocking	29⅜
33½	20⅝	Anheuser Busch	20⅞
35½	26¾	Armco Steel	30¼
33	13⅜	A.S.A.	20¼
19⅞	7½	Asamera Oil	12½
21	13¼	Asarco	18½
34⅞	19⅜	Ashland Oil	34¾
59⅞	49¼	Atl. Richfield	54⅞
14⅛	8	AVC	10¼
15½	4½	Avco	15
14⅜	7½	Avis	14⅜
50⅛	32¾	Avon Products	45⅞
28⅛	22⅛	Balt Gas Elect.	28¾
29⅞	24⅜	Bank America	26¼
41¼	28⅞	Bankers Tr. N.Y.	41¼
37⅜	25¼	Barber Oil	36⅛
46⅜	33	Baxter Travenol	37⅝
28⅜	21¼	Beatrice Foods	26⅞
42⅞	32½	Becton Dickinson	35
25⅛	15	Bell & Howell	18⅝
46¾	37⅞	Bendix	45¼
2¾	1½	Benguet Cons 'B'	1⅝
48	33¼	Bethlehem Steel	38⅝
28¾	15⅞	Black & Decker	18¾
45⅞	24⅝	Boeing	41¼
33½	23½	Boise Cascade	29⅞
36	26	Borden	34⅝
31⅛	8	Borg Warner	29½
14½	8¾	Braniff Int.	10¼
12½	10	Brascan 'A'	12
82⅝	61¾	Bristol Myers	53¼
14½	9½	Brit. Pet ADR	14
36¼	28¾	Brockway Glass	32
18⅜	11	Brunswick	15⅞
29½	17¾	Bucyrus Erie	25⅛
21¾	9½	Budd	20½
10⅞	6	Bulova Watch	7½
48	32	Burlington Nthn.	42¼
107⅝	78¾	Burroughs	78¾
39	30	Campbell Soup	37⅜
33⅝	13	Canadian Pacific	15⅞
12¼	7⅛	Canal Randolph	9⅛
79¾	67	Carnation	74⅜
16⅞	12	Carrier & General	14⅞
25¼	17⅞	Carter Hawley	20⅜
62¼	52¼	Caterpillar Tractr	53½
60½	46¾	CBS	57¼
58	42½	Celanese Corpn	48⅛
18¼	13½	Central & S.W.	17
22	15⅛	Certain Teed	21¾
30¾	21⅛	Cessna Aircraft	29⅝
35	26½	Chase Manhattan	33
45¾	30⅛	Chemical Bk. NY	45¾
64⅞	22⅝	Chesebrgh Pond.	23
41¾	34¼	Chessie System	37¾
78½	52	Chicago Bridge	57
15⅝	9¼	Chromalloy	15½
22¼	10⅜	Chrysler	21
2¼	1½	Cinerama	2⅛
36½	18¾	Cinc Milacron	36½
37⅝	27¾	Citicorp	35
59¾	36⅝	Cities Service	58¾
13⅞	7	City Investing	13½
95¼	73½	Coca Cola	76½
31¼	23½	Colgate Palm	25
16⅛	9⅝	Collins Aikman	12¾
30⅞	22¾	Columbia Gas	30
9¼	4½	Columbia Pict	8⅞
15⅝	8½	Com Ins Co of Am	15¼
50	32¾	Combustion Eng.	48
25¾	13	Combustion Eq.	25¾
32⅜	26⅜	Comw'th Edison	30½
11¾	6⅞	Comw'th Oil Ref.	8½
38	23⅞	Comm. Satellite	35
21¾	18	Con. Edison N.Y.	21½
27	19⅛	Consol Foods	25¼
36¾	24¾	Consol Nat. Gas	35⅞
25½	19	Consumers Power	22⅝
36¼	26¾	Continent'l Gr'p	36⅛
71½	53¼	Continental Oil	56½
17⅝	12¼	Continental Tele.	17
26¾	17¼	Control Data	25¾
42¼	30¼	Cooper Indus.	41⅜
25¾	17⅝	Copper Range	21½
79¾	43⅝	Corning Glass	67⅛
49	44⅝	CPC Int'national	46
39¾	24⅜	Crane	28⅝
29	21⅝	Crocker Nat.	28
49	35⅝	Crown Zellerbach	40¼
49½	19⅝	Cummins Engine	48¾
17¾	10	Curtiss-Wright	16½
29⅝	20¼	Dana	29¼
41	27½	Dart Industries	34½
35⅞	25⅞	Deere	28¼
29⅛	22⅜	Del Monte	27⅞
7⅝	3¼	Deltona	4¾
34⅞	27½	Dentsply Inter.	28¼
15⅝	13⅛	Detroit Edison	15⅝
79½	53¾	Diamond Shamrk	58⅛
12⅝	8¼	Dictaphone	12⅝
60½	45	Digital Equip.	48⅛
63	41⅞	Disney (Walt)	43⅝
39½	22⅜	Dover Corpn	36¼
57¼	38¾	Dow Chemical	40½
47	35⅞	Dresser	41
161¼	118	DuPont	127¾
11½	7½	Dymo Industries	10⅜
40¼	25½	Eagle Picher	39½
11	4½	East Air Lines	8⅝
118⅝	79	Eastman Kodak	79⅛
44½	29½	Eaton	40⅛
19⅝	13⅝	E.G. & G.	17⅞
16⅝	11¾	El Paso Nat. Gas	15⅞
44	24⅝	Eltra	29⅞
50½	32⅛	Emery Air Fr'ght	46¾
37⅝	26⅛	Emhart	37⅛
5¾	2⅞	E.M.I.	4
37⅝	25	Engelhard	34⅝
42	30¼	Esmark	34⅛
49½	29½	Ethyl	44½
56⅞	47¾	Exxon	51⅝
54⅞	36¼	Fairchild Camera	47½
60	42⅝	Fed. Dept. Stores	44⅞
26	21⅛	Firestone Tire	22¾
30	20½	Fst. Nat. Boston	29⅝
19	8¼	Flexi. Van	13¼
23	16	Flintkote	21½
32⅜	25¼	Florida Power	30⅛
45⅛	31	Fluor	35⅝
27¼	19⅝	F.M.C.	25
61½	43⅝	Ford Motor	60¾
18½	13½	Foremost-Mck.	16
50⅝	27½	Foxboro	45⅞
35	23	Franklin Mint	28½
31⅜	21½	Freeport Minerals	29½
28⅞	18½	Fruehauf	28⅝
12½	4⅛	Fuqua Industries	10¾
17⅝	10¾	G.A.F.	12⅛
41	32¼	Gannett	38½
12¼	9	Gen. Amer. Inv.	10½
34¾	26⅛	GATX	33⅜
13⅞	9⅝	Gen. Cable	12
64½	37¼	Gen. Dynamics	56½
58¾	46	Gen. Electric	53½
34⅝	26⅛	General Foods	30⅞
35⅝	26⅝	General Mills	33
78¼	58	General Motors	74⅞
19½	16¼	Gen. Pub. Util.	19⅛
56¼	34¼	Gen. Signal	51
31⅞	24	Gen. Tel. Elect.	30⅞
26¾	18	Gen. Tire	26⅜
9	4⅞	Genesco	5⅝
38½	30⅛	Georgia Pacific	35
199¾	152¾	Getty Oil	199½
38⅞	25	Gillette	28⅛
29¼	18	Goodrich B.F.	26⅞
28¼	20¼	Goodyear Tire	22⅝
31	16¼	Gould	29¼
33⅞	24¼	Grace W. R.	31
19½	12⅝	Grand Union	19⅜
15⅝	10½	Gt. Atlan Pac Tea	12
20⅞	14⅛	Gt. North Iron.	20⅝
17⅞	13	Greyhound	15⅛
3¼	1⅛	Grolier	1⅝
18⅝	14	Grumman	18¼
26⅞	14⅞	Gulf & Western	16¾
29¾	20⅜	Gulf Oil	29¾
69¼	48¼	Halliburton	60⅛
60⅛	43¾	Hanna Mining	48½
22⅞	14⅝	Harnischfeger	17¼
33⅝	26⅝	Harris Corpn	33⅜
34½	26¾	Heinz H. J.	32¼
29¾	18½	Heller W. E.	22
58	20½	Heublein	30¾
117¾	78	Hewlett Packard	80⅝
21	10¾	Holiday Inns	12⅛
44⅛	25⅝	Homestake	35⅜
56⅛	32¾	Honeywell	46½
15⅝	10	Hoover	12¼
28½	20¼	Hosp Corp Amer.	27
36⅝	25	Houston Nat. Gas	34⅜
27⅛	14	Hutton E.F.	16⅜
23⅝	16⅛	I.C. Industries	23⅜
47⅛	34⅞	INA	43⅝
94⅝	68¾	Ingersol Rand	68¾
58¼	41	Inland Steel	49¼
15	8⅝	Insilco	15
15	7	Intercont En'r'y	12⅛
287¾	223⅜	IBM	274
28⅜	19⅛	Intl. Flavors	20⅝
32⅞	22⅛	Intl. Harvester	30
48¼	33	Intl. Min & Chem	40⅛
20	16	Intl. Multifoods	20
36⅞	24¾	Inco	33⅝
79¾	57⅝	Intl. Paper	57¾
31¼	16⅜	IPG	31¼
34	22¼	Intl. Tel. & Tel.	34
3⅜	¾	Investrl	1
37⅛	20	Iowa Beef	21⅜
13¾	9⅝	IU International	12⅝
44¼	28¾	Jim Walter	35⅝
35⅝	22⅛	Johns Manville	31¼
96⅛	71⅛	Johnson Johnson	71⅛
31⅛	12⅝	Johnson Control	31⅛
50½	22⅝	Joy Manufactu'g	43⅞
39⅞	27½	Kaiser Alumin'm	37⅜
16	8½	Kaiser Industries	15⅛
46¼	28¼	Kaiser Steel	32
5⅜	2½	Kay	5⅜
36⅞	25⅜	Kennecott	30½
81⅛	60⅜	Kerr McGee	70
33	18⅛	Kidde Walter	29½
47⅛	36⅝	Kimberly Clark	42
26	21	Koppers	23¾
47½	40½	Kraft	46½
42⅞	31¼	Kresge	36⅜
24¾	17⅝	Kroger Co.	24⅛
30⅜	19½	Levi Strauss	29¼
37	21⅞	Libby Ow Ford	36⅝
36¼	29¼	Liggett Group	34¾
60½	43⅝	Lily (Eli)	44¼
17⅝	6⅞	Litton Indust.	15⅛
12½	6⅜	Lockheed Aircraft	9¾
22½	14	Lone Star Inds.	22
18½	15⅞	Long Island Ltd.	18¼
30⅞	21⅞	Louisiana Land	30¾
44⅞	31⅜	Lubrizol	34
17⅛	13	Lucky Stores	15⅝
24⅞	12⅜	L'kes Youngst'wn	15⅞
10	4¼	MacMillan	9½
38½	26⅜	Macy R. H.	36¼
41	29	Mfrs Hanover	40¼
44⅝	35	Mapco	44⅝
60¼	41¼	Marathon Oil	58⅜
13⅞	8⅞	Marine Midland	12⅜
25⅜	16⅝	Marshall Field	20½
53½	28⅛	May Dept. Stores	29
41½	26⅝	MCA	41½
54¾	37⅞	McDermott	46¾
25¼	14¾	McDonnell Doug.	24
17⅛	12¾	McGraw Hill	16¼
80⅜	62⅛	Merck	62⅛
33¼	14¼	Merrill Lynch	23⅜
18⅜	12¾	MGM	18
56½	52	Minn Mng & Mfg	52½
65⅛	47½	Mobil Corp.	64¼
99⅜	76	Monsanto	85⅝
63¾	50¼	Morgan J. P.	55⅝
58	41	Motorola	53⅝
28	16¾	Murphy Oil	27⅞
50½	35½	Nabisco	47
36½	29½	Nalco Chemical	31⅞
16⅝	9⅝	National Can	13¼
27½	16	Nat. Distillers	24¼
14⅞	9⅝	Nat. Service Ind.	14⅜
52¼	37¼	National Steel	44¼
42⅝	28½	Natomas	40⅝
38⅛	23⅝	NCR	35
20	15¼	Neptune Int	19¼
23¼	19⅛	New England El.	23¼
36⅜	28½	New England Tel.	34½
15	12½	Niagara Mohawk	15
14	11	Niagara Share	12¾
23¾	12⅞	N. L. Industries	21¼
33⅜	21¼	Norfolk & Western	31⅛
52½	33⅞	North Nat. Gas	45⅝
30	23⅝	Nthn States Pwr.	28⅜
35⅛	23	Nthwest Airlines	26⅝
56¾	43¼	Nthwest Bancorp	54
24¾	17⅞	Norton Simon	19½
26	14	Occidental Petrol	25⅞
33½	17	Ogilvy Mather	32¼
21	16½	Ohio Edison	21¾
45¼	30¼	Olin	41¾
28¼	10⅞	Overseas Ship	25¼
65⅝	42	Owens Corning	63⅝
53	50	Owens Illinois	54½
25⅞	20	Pacific Gas	25⅞
19⅞	18¾	Pac. Lighting	19¼
24	20	Pac. Pwr. & Lt.	23¼
7⅞	4¼	Pan Am World Air	4⅞
35⅞	21¾	Parker Hannifin	35¾
23¾	14⅞	Peabody Galion	23⅜
22⅝	19⅛	Penn Pw & Lt.	22⅛
60¾	46⅝	Penney J. C.	46⅝
34⅞	19⅛	Pennzoil	34⅞
11	5¼	Peoples Drug	10⅝
49⅞	34¾	Peoples Gas	49¾
87	68⅛	Pepsico	75
28¼	18⅞	Perkin Elmer	20
31⅞	23⅞	Pet	31⅛
31	25⅝	Pfizer	27⅛
45¾	34¾	Phelps Dodge	37
18⅞	14⅞	Philadelphia Elec	18⅛
62⅞	50	Philip Morris	56⅞
65¾	49⅛	Phillips Petrol'm	61¾
21¾	14¼	Pickwick Inter.	21⅜
44½	33⅝	Pillsbury	42⅞
19¼	13½	Pitney Bowes	19¼
47½	31	Pittston	43¾
16¾	8¼	Plessey Ltd ADR	11⅝
44	31¼	Polaroid	35⅛
14⅞	11⅛	Potomac Elec.	14⅞
58½	35	PPG Industries	45⅛
99¾	81⅞	Procter Gamble	86⅞
23⅝	17⅜	Pub. Serv. Elect.	23⅝
85¼	27⅞	Pullman	54¼
19⅜	14⅜	Purex	18⅛
26⅝	21¼	Quaker Oats	25
8⅜	3⅛	Rapid American	6⅝
67⅞	44¾	Raytheon	69⅝
29⅞	18¾	RCA	26⅛
40⅛	27⅛	Republic Steel	33⅛
89¾	39⅛	Revlon	39⅛
42⅝	22⅛	Reynolds Metals	39½
68¼	55¼	Reynolds R. J.	67¼
27⅛	21⅜	Rich'sons Merrel	25½
34⅜	23⅜	Rockwell Inter.	34⅝
76¾	44½	Rohm & Haas	45½
53⅛	41¾	Royal Dutch	52⅝
14⅝	9¾	Ross Togs	11⅝
15⅜	9	Ryder Systems	14¼
50⅛	39⅝	Safeway Stores	48⅝
49⅞	33⅛	St. Joe Minerals	40⅛
50½	33⅞	St. Regis Paper	34⅜
40	30⅜	Santa Fe Inds.	37
4⅛	2⅞	Saul Invest	4⅛
8⅛	3¾	Saxon Inds.	4⅛
24	15⅞	Schlitz Brewing	16⅛
68¼	47	Schlumberger	59⅛
22¾	11½	SCM	20½
24⅛	14⅛	Scott Paper	18⅛
23¼	11¾	Scovill Mfg	23¼
8	4¾	Scudd'r Dup Vest	7⅛
27⅞	7	Sea Containers	27⅝
31⅝	20⅝	Seagram	25
17¾	10⅞	Searle (G.D.)	12⅝
79½	61¾	Sears Roebuck	64¾
35¼	22½	SEDCO	31¾
78⅞	47⅝	Shell Oil	75⅝
33⅛	23⅞	Shell Transport	32⅝
26½	15⅜	Signal	26
42¾	32	Signode Corp	38⅞
23½	11¼	Simplicity Pat	15½
25⅝	8¾	Singer	21⅜
82½	58½	SmithKline	75¾
4½	1¾	Solitron	2½
15	9⅞	Southdown	14
23½	18½	Southern Cal. Ed.	23⅜
17	13⅝	Southern Co.	17
58⅛	47	Sthn. Nat. Res.	55⅜
37⅞	30	Southern Pacific	36⅝
62⅝	50¼	Southern Railw'y	62¼
27⅜	21¼	Southland	26⅜
16½	10¼	Sperry Hutch	16¼
51¼	37⅞	Sperry Rand	39½
38⅞	27¼	Squibb	29
40½	27⅝	Standard Brands	29
43½	29⅛	Std. Oil California	40½
58⅞	41	Std. Oil Indiana	57½
80¼	61¾	Std. Oil Ohio	75⅝
103¼	41⅞	Stauff Chemical	48⅞
21	15⅜	Sterling Drug	16⅛
60⅝	36⅝	Studebaker	45⅜
48¾	27	Sun Co.	45⅞
38¾	18	Sundstrand	34⅛
54¼	20⅛	Syntex	23
47½	27	Tandy	40⅞
7	4½	Technicolor	5⅝
68¼	44¼	Tektronix	59⅝
80¼	22⅛	Teledyne	62¾
4½	1⅞	Telex	3⅜
37¼	26	Tenneco	36½
18⅛	13¼	Tesoro Petroleum	16½
28½	23⅜	Texaco	28
37⅜	27¾	Texasgulf	31¼
129	92¼	Texas Instm.	93½
30	13¼	Texas Oil & Gas	30
22¼	17⅜	Texas Utilities	21⅝
69¾	32	Time	36⅝
23¾	18½	Times Mirror	21⅝
58½	36¾	Timken	52
58⅝	20	Trane	56⅛
14⅝	8¼	Transamerica	14¼
38½	29¼	Trans Union	37⅜
26½	16⅞	Transway Int'rnl	21⅝
16	8⅞	Trans World Air.	11⅞
38	25⅞	Travelers	34
22⅝	18¾	Tri Continental	22¼
58¼	26¾	T.R.W.	38¼
15	8½	20th Century Fox	11½
29⅞	21¾	UAL	24¾
25⅛	19	UARCO	21⅞
19	13	UGI	18¾
15⅜	10	UOP	15⅜
35⅜	22	Unilever Ltd	30
50¼	39⅝	Unilever NV	48¾
13⅝	8½	Union Bancorp	13
76¾	56	Union Carbide	68½
9⅛	6⅛	Union Commerce	8
59	40⅞	Union Oil Cali.	54¾
101½	76	Union Pacific	97⅝
10¾	7¾	Uniroyal	9⅞
11⅛	5⅛	United Brands	9⅝
10½	7⅛	United Corp	10⅛
29⅛	18⅝	US. Bancorp	27¾
27¼	16¾	US. Gypsum	25
9⅛	3½	US. Industries	8½
37	19⅛	US. Shoe	26⅝
67½	46	US. Steel	46¼
39⅛	30⅝	U. Technologies	37
68⅛	47	Utah Int'l	68⅛
35¼	19⅝	UV Industries	33⅞
15½	12⅝	Virginia Elect.	15⅞
17¾	12	Walgreen	17¼
28⅛	17⅛	Warner-Commn.	28½
39½	28⅛	Warner-Lambert	30
13¾	6¾	Waste Man'ment	13½
28¼	15⅜	Wells-Fargo	28¼
30½	17¾	Western Bancorp	29½
18½	11¾	Western N. Amer	16⅛
20¾	15¾	Western Union	19⅜
19⅛	13	Westingh's Elect	17¾
47½	25¼	Westvaco	27½
49⅝	37	Weyerhaeuser	42¼
34¾	24¼	Whirlpool	27
27¼	12¾	White Cons. Inds.	25¾
29	20	Williams Co.	24¼
31⅞	24¼	Wisconsin Elect.	31
26½	18½	Woolworth	25⅞
6⅞	1⅛	Wyly	2
68½	49¼	Xerox	55¼
15½	10¼	Zapata	14
40⅝	23⅝	Zenith Radio	24
93	87½	Chile 5% 1993	†91½
†95¾	85¾	U.S. Treas 4% 1980	†93⅝
86¾	79⅝	US Treas 4¼% 75/85	†83⅝
5.56%	3.72%	U.S. 90 Day bills	4.65

CANADA

1976/77 High	1976/77 Low	Stock	Jan 21
6⅞	3.10	Abbey Glen Prop	†6¾
13½	8⅝	Abitibi Paper	9¾
5.37	2.90	Agnico Eagle	3.60
29⅝	19¾	Alcan Aluminium	24⅛
28¾	17¼	Algoma Steel	17⅝
†33½	21	Asbestos	†32
16⅝	13¼	Bank Montreal	14⅛
22	18¾	Bank Nova Scotia	21
12	7¼	Basic Resources	8
51⅛	43	Bell Telephone	47⅞
28¼	15½	Bow Valley Inds	24¼
11⅜	7⅛	BP Canada	8⅞
13	9¾	Brascan	12¼
5.50	3.0	Brinco	†3.50
34½	27⅜	Calgary Power	32⅞
11⅜	7½	Canada Cement	8
9¼	4.70	Canada N.W. Land	8
29	23⅜	Can Imp Bank Com	25½
25	16	Canada Indus.	17¼
37	13⅝	Can. Pacific	16⅛
22¾	15⅛	Can. Pacific Inv.	18¼
46½	36⅛	Can. Super Oil	41⅛
3.75	2.55	Carling O'Keefe	3.00
8⅛	5	Cassiar Asbestos	6⅛
12⅞	8⅛	Chieftain Dev.	12⅞
41¾	33	Cominco	34⅝
38¼	25⅞	Cons. Bathurst	27½
14¼	11½	Consumer Gas	14⅛
10½	7	Costain Rich	8
9	3.30	Dasco Resources	7⅜
67⅛	50⅛	Denison Mines	54½
46⅝	32¾	Dome Mines	†43⅛
53½	32⅝	Dome Petroleum	41⅜
20	12⅝	Dominion Bridge	†18
26⅛	14¼	Domtar	15¾
21½	12¼	Dupont	13
45	28⅝	Falcon'ge Nickel	34¼
90¾	72	Ford Motor Can.	88
23⅝	19⅝	Genstar	22⅝
8¼	3.65	Giant Yel'wknife	†6¾
35	21⅜	Gulf Oil Canada	25¼
8¼	4.05	Hawker Sid. Can.	4.50
38⅛	26⅛	Hollinger	†28¼
34½	23⅛	Home Oil 'A'	28¾
22	14¼	Hudson Bay Mng	19
20¾	13⅝	Hudson Bay	16⅛
40½	31⅜	Hudson Oil & Gas	35⅝
20	14⅝	I.A.C.	16
27½	20¾	Imasco	†24
25¾	18⅝	Imperial Oil	21¾
35	11½	Inco	33¾
14⅞	8½	Indal	†13⅞
35½	9	Inland Nat. Gas	11⅛
16	11⅞	Int'pr'y Pipe Line	14⅛
7¾	5⅛	Kaiser'f Fin Corp	†6⅛
5.50	2.55	Loblaw Com. 'B'	2.85
23½	17⅞	Mc'mill'n Bloed'l	22¾
29¾	19⅛	Massey Ferguson	20
47½	26¼	McIntyre Porpne	31⅛
51¼	31¼	Moore Corpn.	35¼
39½	26⅝	Noranda Mines	29
13¾	9¾	Norcen Energy	11⅛
40½	28⅝	Nthn Telecom.	41⅜
12	8½	Numac Oil & Gas	11
1.84	0.72	Oakwood Petr'm	1.45
1.57	0.52	Pacific Copper M	1.12
32½	24¾	Pacific Petroleum	29½
25¾	16	Pan. Can. Pet'm	25¼
17¼	10	Patino	†14⅛
5.25	2.75	Peoples Dept. S.	5¼
3.90	0.50	Place Gas & Oil	1.45
25½	16	Placer Developmt	21⅝
10¾	7	Power Corporat'n	7⅞
17	9	Price	9¾
1.48	0.45	Quebec Sturgeon	†0.65
23½	13	Ranger Oil	23¼
7⅛	5⅛	Reed Shaw	6⅞
56½	26	Rio Algom	47⅝
30⅝	23⅝	Royal Bk. of Can.	25⅛
24⅝	15¾	Royal Trust	18⅛
31	20½	Seagrams	25
17⅞	13	Shell Canada	14⅛
8⅛	5	Sherritt G Mines	5½
15¾	10½	Siebens O.G.	—
9½	4.95	Simpsons	5.00
30⅞	22½	Steel of Canada	24⅞
2.66	1.55	Steep Rock Iron	2.01
12	7	Telcorp	11½
30	20¾	Texaco Canada	25
20½	17	Toronto Dom. Bk.	18⅛
13⅝	11⅞	TransCanPipe Ln	12⅛
12⅝	8⅜	Trans. Mount Oil	8⅞
15¾	9⅛	Trizec	†10¾
9¾	7¾	Union Gas	9⅜
16¼	10⅝	United Corp "B"	†11⅛
33¼	25¼	Walker Hiram	27¼
27¾	22¼	West Coast Trans	27
18½	10⅝	Western Geo.	13¼

a Asked. * Assented. † Bid. § Traded. n New Stock.

GERMANY ◆

Jan. 21	Prices Dm.	+ or —	Div. %	Yld. %
A.E.G.	80	—0.5	—	—
Allianz Versich.	410.5	—0.5	18	2.2
B.M.W.	225	.....	18	4.1
B.A.S.F.	164.2	—0.8	14	4.5
Bayer	134.5	—0.5	14	5.2
Bayer Hypo.	275	—2	20	3.7
Bayer Vereinsbk	273	—2	20	3.1
Commerzbank	188.5	—2	18	4.8
Conti. Gummi	66	+0.5	—	—
Daimler	346	—2.5	17	2.4
Degussa	237.5	—0.5	15	3.9
Demag	144.5	.....	16	5.6
Deutsche Bank	275.1	—2.9	20	3.7
Dresdner Bank	218	.....	20	4.6
Dyckerhoff Zement	125	.....	6	2.4
Gutehoffnung	169	—4.5	14	4.2
Hapag Lloyd	106.5	—0.2	12	5.5
Harpener (Dm100)	153	—3	9	5.8
Hoechst	137.3	+0.3	14	5.2
Hoesch	46.6	+0.6	—	—
Kali Salz (Dm 60)	110.5	—2	7	3.1
Karstadt	342	—2	y20	2.9
Kaufhof	214	—0.8	20	4.6
Klockner (Dm100)	92.5	—0.5	—	—
Klock Humbolt	145.9	—0.3	10	3.4
Krupp Prf (Dm100)	100	.....	—	—
Kundenkredit Bk	226	—3	20	4.3
Linde	303.5	—2.5	16	4.0
Lowenbrau Dm100	1,820	.....	20	1.2
Lufthansa	97	.....	4	2.1
M.A.N.	164.5	—0.5	14	4.3
M'esmann Dm 50	171	+0.9	17	4.1
Metallgesellschaft	200.5	—4.5	10	—
Munch. Ruckvers	440	+5	18	2.0
Neckermann	45.8	—0.2	y—	—
Preussag Dm. 100	145	.....	7	4.9
Rhein West Elect	167	—1	17	4.7
Schering	287	—1.1	20	3.4
Siemens	255	—6	16	2.7
Sudzucker	240	—3	s19	4.0
Thyssen	112	+0.2	14	6.0
Veba Akt'schaft	121.9	—0.3	12	4.9
Vereins West Bk	306	.....	20	3.0

PARIS

Jan. 21	Price Frs.	+ or —	Div. Frs.	Yld. %
Afrique Occid't'le	402	—2	19.8	5.0
Air Liquide	320.5	—0.5	16.5	5.2
Aquitaine	313	—0.2	22.5	7.2
Beghin	70.1	—2.1	—	—
B.S.N. Gervais	486	—11	37.8	7.6
Carrefour	1,475	—5	57	3.7
Chargeurs Reunis	170	.....	16.5	9.8
Cie Bancaire	299.2	+3.1	12	4.0
C.G.E.	266	+2	25.5	8.9
CreditCom Fr'nce	100	—0.8	10.9	10.6
Credit Foncier	318	+7	29½	9.4
Denai N.E.	65.9	—0.1	18.75	27.4
Fr. Petroles	104.5	—1	14.1	13.5
Gal. Lafayette	56.5	+0.7	—	—
Gen. Occidentale	169.5	+2.6	8.25	4.8
Imetal	90	—3	4.95	4.8
Lafarge	185.1	—3.9	15.75	8.1
L'Oreal	880	—11	15	1.7
Machines Bull	29	—0.2	1.5	5.1
Michelin "B"	1,295	—7	30.6	2.3
Moet Hennessey	410	—10.8	11.85	2.8
Paribas	145.9	.....	16¾	11.1
Pechiney	77.2	—0.6	7.5	9.6
Peugeot-Citroen	260.8	—3.2	16	6.6
Printemps	44.9	—0.3	—	—
Redoute	597	—1	22.5	3.6
Rhone Poulenc	76.7	+0.2	9	11.6
Sacilor S.A.	54.1	—0.1	—	—
Suez	211.5	—0.7	24	11.5
Thomson Brandt	180	—1.5	14.25	6.9
Usinor	34.2	—0.5	—	—

AMSTERDAM

Jan. 21	Price Fls.	+ or —	Div. %	Yld. %
Ahold (Fl.20)	75	—0.3	20	5.3
Akzo (Fl.20)	28.1	+0.4	—	—
Algem Bank (Fl.100)	313	.....	21	7.1
AMEV (Fl.10)	65.5	—1	s56	6.7
Amro Bank (Fl.20)	72.1	—0.5	21	5.6
Van Berkels (Fl.50)	117.5	—0.3	15	6.5
Bijenkorf (Fl.20)	82	—1	21	5.0
Boka West'm Fl.10	114.1	—0.2	57½	5.0
Buhrm-Tetterode	67.2	—1.3	23	6.7
Elsevier (Fl.20)	255	—5	18	1.4
Enni N.V. Bearer	112.2	—0.7	52.4	5.0
Euro Com Tst Fl.10	62.5	.....	50.4	4.5
Gist Brocades Fl.10	54.5	—1.5	20	3.9
Heineken (Fl.25)	119.5 xd	—0.5	14	3.0
Holland Fund	122.5	—0.7	64.7	5.7
Hoogovens (Fl.20)	45	—0.4	—	—
H'nte Douglas Fl.	26.5	.....	11	4.2
I.H.C. Holland	14.5	—0.7	10	6.8
K.L.M. (Fr.100)	88	—1	—	—
Int. Muller (Fl.20)	38.4	+0.5	10	5.4
Naarden (Fl.10)	39	.....	—	—
Nat. Ned. Ins'rnce	91.3	+0.3	20	3.8
Ned Cred Bk (Fl.20)	46.8	+0.2	18	7.7
Ned Mid Bk (Fl.50)	142 xd	.....	17	6.0
Nedo (Fl.50)	94	.....	y20	5.6
Nijverdale T. Cate	51.7	—0.3	—	—
OCE (Fl.20)	179	—1	a28	3.1
Van Ommeren	173	—2	10	—
Pakhoed (Fl.20)	77.5	—0.3	20	4.7
Philips (Fl.10)	26.5	—0.2	s14	5.0
Rijn Sch Ver Fl.100	68	.....	18	25.7
Robeco (Fl.50)	185.5	—1.2	26.2	6.5
Rolinco (Fl.50)	136	—1	5	1.8
Rorento (Fl.50)	124.3	+0.2	13.5	4.0
Royal Dutch (Fl.20)	131	—1.5	43.76	6.7
Slavenburg's Bnk	250	—1	19	7.1
Stevin Grp (Fl.20)	94	+0.4	25	5.5
Tokyo Pac Hlgs $1	99	.....	$0.3	1.5
Unilever (Fl.20)	122.7	—1.3	38¼	5.9
Viking Res. Int. $1	41.5	+0.3	$0.70	1.5
VMF Stork	73	—0.5	14	—

MILAN

Jan. 21	Price Lire	+ or —	Div. Lire	Yld. %
Attalia Priv.	412	—6	—	—
ANIC	429	+7	—	—
Assonia Fin.	2,505	+5	120	5.7
Bastogi	860	+6	—	—
Breda	1,780	+35	105	5.9
Burgo	8,100	.....	—	—
Cantoni	5,250	+70	—	—
CIGA	1,459	+68	—	—
Cucirini	4,000	.....	266	6.0
Dalmine	599	+9	75	1.4
Erba	1,600	—61	—	—
Fiat	1,995	+19	100	5.1
Do. Priv.	1,310	+15	100	0.9
Finsider	210	+2	—	—
Generali	38,350	—10	500	13.1
Invest B.	1,958	+68	80	4.1
Italcementi	14,090	+140	300	2.6
Italgas	660	—3	—	—
Italsider	285	.....	—	—
La Centrale	6,940	+41	400	5.7
Marelli Ercole.	307	+2	—	—
Mediobanco	45,500	—420	960	2.1
Mondadori Priv	913	+8	—	—
Montedison	310	+6	—	—
Olivetti Priv	972	—2	70	7.3
Pirelli & C.	2,000	+29	110	5.4
Pirelli Spa	1,229	+30	—	—
RAS	64,100	—100	500	0.94
Rinascenti	56.5	+2	—	—
Rumianca	1,690	+20	—	—
S.A.F.F.A.	5,100	.....	200	4.1
S.T.E.T.	1,360	+25	180	1.4
Snia Viscosa	1,110	+65	—	—
Soc. Gen. Immob.	127.75	+5.25	—	—
Unidal	328	—5	—	—

TOKYO ¶

Jan 22	*Prices Yen	+ or —	Div. %	Yld. %
Asahi Glass	358	+2	14	2.0
Canon	646	—3	—	0.8
Dai Nippon Print	647	.....	18	1.5
Fuji Photo Film	852	+2	15	0.9
Hitachi	234	+5	10	2.1
Honda Motors	714	+9	18	1.3
C. Itoh	304	+1	12	2.0
Ito-Yokado	1,900	.....	30	0.8
Japan Airlines	2,470	—70	—	—
Kansai Elect Pw.	690	.....	9	5.8
Komatsu	320	+2	18	[illegible]
Kubota	352	+1	15	2.1
Matsushita Ind.	718	+27	20	1.4
Mitsubishi Bank	289	—1	10	1.7
Mitsubishi Heavy	125	.....	12	4.8
Mitsubishi Corp.	474	—2	16	1.4
Mitsui & Co	469	+2	14	1.5
Mitsukoshi	459	—4	20	2.2
Nissan Motor	725	+6	16	1.1
Pioneer El'ctronic	2,320	.....	30	0.6
Sanyo Electric	250	+1	12	2.4
Seido	1,470	+30	25	0.9
Sony	2,510	+10	30	0.6
Taisho Marine	348	+8	11	1.6
Takeda Chemical	279	+7	15	2.7
Teijin	126	—1	12	4.0
Tokio Marine	505	.....	11	1.1
Tokyo Elect. Pwr.	706	+6	10	5.7
Toshiba	125	—3	10	4.0
Toray	127	.....	12	3.9
Toyota Motor	1,270	+40	16	0.7

Source Nikko Securities, Tokyo

BRUSSELS/LUXEMBOURG

Jan. 21	Price Frs.	+ or —	Div. Frs. Net	Yld. %
Arbed	3,410	—65	150	—
BBL Bq Brx Lam.	1,825	+25	40	2.6
Bekaert "B"	1,880	+5	105	5.6
GBL (Gr Brx Lam)	1,500	—10	110	6.0
C.B.R. Cement	1,470	+16	75	10.7
Cockerill	560	+12	—	—
E.B.E.S.	2,200	—10	161	7.3
Electrobel	5,600	.....	400	7.1
Fabrique Nat.	2,060	+20	100	4.7
G.B. Inno-Bm.	1,700	—5	70	4.1
Glace St. Roch.	3,690	.....	50	1.4
Hoboken	3,180	.....	110	3.1
Intercom	1,715	.....	129	7.5
Kredietbank	6,320	+20	445	6.7
La Royale Belge	4,670	+20	265	5.7
Pan-Holding	2,750	+20	$2.16	5.2
Petrofina	4,410	—75	170	3.9
Photo Gevaert	1,200	.....	75	6.2
Pieux Franki	4,305	—25	275	6.3
Soc. Generale	2,225	—30	170	7.3
Soc. Gen. Banque	2,625	—15	170	6.7
Sofina	3,040	—30	180	6.4
Solvay 'A'	4,470	—40	170	5.5
Traction Elec.	2,650	—70	100	3.8
U.C.B.	4,105	—60	[illegible]	5.8
Un. Min. (1/10th)	1,010	—14	70	6.8
Vieille Montagne	3,010	.....	150	11.9
Wagons Lits	558	+4	20	6.8

SWITZERLAND ◆

Jan. 21	Price Fr.	+ or —	Div. %	Yld. %
Aluminium	1,370	—10	6	2.2
Bally Hld.	1,380	—40	—	—
BBC 'A'	1,585	—5	10	3.1
Ciba Geigy	1,380	—10	22	1.7
Do. Do. Part	1,045	—5	22	2.2
Do. Do. Reg	637	—1	22	3.5
Credit Suisse	2,735	—5	16	2.9
Fischer (George)	640	—10	—	—
G'nd. Mag. Jel F10	1,185	—10	19	1.6
Hoffman LaRoche	87,000	—1000	350	0.7
Interfood B.	2,540	—50	20	4.0
Landis Gyr B (F250)	760	+5	—	—
Nestle	3,440	—25	a78.6	2.3
Do. Reg.	2,020	—10	a78.6	3.9
Sandoz Br. (F250)	4,850	.....	26	1.5
Do. Br. Part Certs	3,650	.....	26	7.6
Sauer Arbon	850	—20	8	4.7
Soc. Int. Pirelli	194	—1	14	7.2
Swissair (F350)	643	—3	5.7	3.1
Swiss Bank Corp.	410	—2	10	2.4
Un. Bank of Switz.	3,295	—15	20	3.0
Winterthur Br.	1,930	—10	50	1.6
Zurich Ins. Br.	10,125	—75	40	1.9

COPENHAGEN

Jan. 21	Price Kroner	+ or —	Div. %	Yld. %
Andelsbanken	152	.....	s10	6.4
Burm'str W. A/S	295	—7¼	—	—
Danske Bank	140¾	.....	12	8.6
Dan Provinsbank	154	.....	11	7.2
East Asiatic Co.	283¾	+1¼	12	4.3
Finansbanken	141	.....	16	9.4
For. Bryggerier	360¼	+1¼	12	5.5
Handelsbank Cop	144¼	.....	11	7.6
Papirfabrik For.	79⅛	—1⅛	15	12.0
J. Northern Hld.	240	+3	12	4.4
Nord Kabel	258	+3	12	5.1
Oliefabrik	132¼	—¼	12	8.8
Privatbank	154¾	.....	11	7.2
Soph. Berendsen	296¼	+¼	11	3.7
Superfos	246¼	+2¾	12	4.7

STOCKHOLM

Jan. 21	Price Kroner	+ or —	Div. Kr.	Yld. %
AGA AB (Kr.50)	184	+1	5.5	3.1
Alfa Laval B (Kr50)	142	—1	d5	3.5
Asea (Kr50)	111	+1	6½	4.5
Atlas Copco (Kr25)	135	—1	6	4.4
Billeruds	152	—1	8½	5.2
Bofors	240	.....	9	3.7
Cardo	300	.....	11	3.6
Cellulosa	264	.....	9.5	3.7
Electrolux 'B'	124	—1	5	3.6
Ericsson B (Kr50)	88	+1.5	6¼	—
Esselte "B"	247	—1	6	3.1
Fagersta	156	.....	6	3.8
Granges (Free)	64.5	.....	—	—
Handelsbanken	370	+4	16	4.1
Marabou	150	.....	10	6.8
Mo Och Domsjo	126	—1	10	8.1
Sandvik A.B.	241	+1	7	3.5
S.K.F. 'B' (Kr 50)	88.5	+0.5	4.5	5.1
Skand Enskilda	244	+4	14.5	5.1
Tandstik 'B' Kr.	97	—0.5	5	5.1
Uddeholm	75	—4	4	11.2
Volvo (Kr 50)	95.5	+1	6	6.4

OSLO

Jan. 21	Price Kroner	+ or —	Div. %	Yld. %
Bergens Bank	113.5	+1	9	7.9
Borregaard	99	+1	6	—
Creditbank	127	+1	10	7.8
Kosmos	565	.....	20	3.4
Kreditkassen	123	.....	10	8.1
Norsk Hydro Kr80	265	—1	12	2.9
Orkla Ind.	80	.....	—	—
Storebrand	130	—5	10	7.6

BRAZIL

Jan. 21	Price Cruz	+ or —	Div. Cruz	Yld. %
Banco Brasil PP.	3.88	.....	0.18	4.64
Belgo Mineira OP	3.24	+0.01	0.14	4.32
Brahma PP	1.57	—0.02	0.15	9.55
Docas Santos OP	1.02	+0.02	0.15	14.7
Lojas Amer OP	3.30	+0.05	0.20	6.06
Petrobras PP	2.65	+0.01	0.11	4.15
Samitri OP	3.37	—0.02	0.12	3.56
Mannesman OP	3.02	—0.05	0.10	3.31
Souza Cruz OP	3.30	+0.05	0.21	6.36
Vale Rio Doce PP	2.63	+0.05	0.11	4.18

Vol. Cr.65.5m. Shares 28.6m.
Source: Rio de Janeiro SE.

VIENNA

Jan. 21	Price %	+ or —	Div. %	Yld. %
Creditanstalt	344	.....	10	2.9
Perlmooser	322	.....	9	2.8
Selecta	671	—3	48	7.3
Semperit	134	.....	—	—
Steyr Daimler	168	—2	5	3.1
Veit Magnesit	347	+1	22	6.4

SPAIN ♥

Jan. 21	Per cent.	+ or —
Asland	113	—
Banco Lopez Quesada	375	+ 8
Banco Bilbao	496	—
Banco Atlantico (1,000)	349	+ 5
Banco Central	385	—
Banesto (250)	350	—
Banco Exterior	407	—
Banco General	402	—
Banco Granada (1,000)	305	—
Banco Hispano	336	—
Banco Iberico	392	+ 4
Induban	410	—
Banco Ind. Cat. (1,000)	290	+ 2
Banco Mercantil (1,000)	305	—
Banco Occidental	249	—
Banco Popular	371	+ 6
Banco Santander (250)	514	+ 6
Banco Urquijo (1,000)	412	+ 5
Banco Vizcaya	390	—
Banco Zaragozano	329	—
Bankunion	206	— 2
Banus Andalucia	250	—
Altos Hornos	89	—
Babcock Wilcox	77.50	—
CIC	268	—
Dragados	450	—
Inmobanif	130	—
E. I. Aragonesas	89	+ 1
Espanola Zinc	174 xd	+ 1½
Expl. Rio Tinto	192	+ 4
Fecsa (1,000)	88.50	— 1.50
Fenosa (1,000)	99.50	—
Finanzauto SA	240	—
Finanzauto Servicios	246	—
Gal Preciados	288	—
Grupo Velazquez (400)	210	—
Hidrola	182	—
Iberduero	112	— 1
Motor Iberica	195	—
Olarra	209	— 3
Papeleras Reunidas	147	+ 3
Petroliber	283	— 3
Petroleos	318	+ 1
Sarrio Papalera	150	— 10
Sniace	66	—
Sogefisa	198	—
Telefonica	121	—
Torras Hostench	200	+ 5
Tubacex	280	— 2
Union Elec.	99	+ 0.50
Union y Fenix	450	—
Urbis	141	+ 2

NOTES: Overseas prices shown below exclude $ premium. Belgian dividends are after withholding tax.

◆ DM50 denom. unless otherwise stated. ♥ Ptas.500 denom. unless otherwise stated. ♣ Kr.100 denom. unless otherwise stated. ◆ Frs.500 denom. unless otherwise stated. ¶ Yen 50 denom. unless otherwise stated. $ Price at time of suspension. a Florins. b Schillings. c Cents. d Dividend after pending rights and/or scrip issue. e Per share. f Francs. g Gross div. %. h Assumed dividend after scrip and/or rights issue. k After local taxes. m % tax free. n Francs, including Unilac div. p Nom. q Share split. s Div. and yield exclude special payment. t Indicated div. u Unofficial trading. v Minority holders only. y Merger pending. * Asked. † Bid. § Traded. ‡ Seller. z Assumed. xr Ex rights. xd Ex dividend. xc Ex scrip issue. xa Ex all. Δ Interim since increased.

CORAL INDEX
Close 383-388

I.G. Index 01-351 3466
3 month Tin 5,720-5,780

Investment premium based on $2.60 per £1 — 108% (109½%)

هكذا من الاصل

AUTHORISED UNIT TRUSTS

bey Unit Tst. Mgrs. Ltd. (a)(g)
0, Gatehouse Rd., Aylesbury. 0296 5941

ey Capital	24.3	25.8	+0.1	4.68
ey Income	29.9	31.8	+0.1	6.29
ey Inv. Tst. Fd.	26.6	28.3	+0.1	4.66
ey Gen. Tst	35.3	37.6xd	+0.1	4.49

ied Hambro Group♥ (a)(g)
bro Hse., Hutton, Brentwood, Essex.
88-2851 or Brentwood (0277) 211459

nced Funds				
ed 1st	51.7	55.2	+0.2	6.88
Ind. Fund	49.3	52.7	+0.2	6.56
& Inc.	28.3	30.2xd	+0.1	6.32
& Ind. Dev.	24.7	26.4	+0.2	6.43
al Capital	54.4	58.1	+0.2	6.06
bro Fund	81.0	86.5	+0.4	6.17
bro Acc. Fd.	89.6	95.7	+0.3	5.46
me Funds				
Yield Fd.	45.5	48.6	+0.5	9.97
ity Income	29.1	31.1xd	+0.4	7.71
Income	47.0	50.2	+0.3	7.57
bro Inc. Fd.	41.7	44.5	+0.5	7.30
national Funds				
national	23.3	24.9xd	-0.3	2.31
of America	50.5	54.0	-0.1	1.98
ific Fund	32.8	34.9xd	-0.2	3.86
cialist Funds				
ller Co.'s Fd.	38.9	39.2xd	+0.2	7.57
Smlr. Co's Fd.	25.1	26.8	+0.9	8.02
overy Sits.	54.7	58.4	+0.6	7.27
Min. & C'dty.	32.9	35.1	-0.1	6.29
seas Earnings	45.7	48.8xd	+0.2	4.99
Exempt Jan. 1	121.9	128.3	—	7.98

bacher Unit Mgmt. Co. Ltd.
ble St., E.C.2V 7JH 01-606 4010

Monthly Fund	108.0	115.0	....	12.10

uthnot Securities Ltd. (a)(c)
ueen St. London EC4R 1BY 01-236 5281

ra Giants	29.8	32.4xd	....	3.98
um. Units)	33.3	36.2xd	....	3.98
th Units	23.8	26.0xd	....	4.00
um. Units)	27.0	29.4xd	....	4.00
Inc. Units	30.6	33.3xd	....	12.32
c. Uts.)	38.4	41.8xd	....	12.32
& Intl. Acc.	19.5	21.4	....	2.03
withdrawal)	16.6	18.2	....	2.03
cot. Cmmd.	23.9	25.8	+1.1	9.19
ccum. Units)	31.4	33.9	+1.6	9.19
% withdrawal)	24.2	26.1	+1.2	9.19
thnot Pref	23.0	25.0xd	....	13.00
ccum. Units)	31.0	33.8xd	....	13.00
ent Capital*	14.5	15.6	....	—
Sec. L'dr.††	21.2	22.8	....	5.43
nt Fin. Prop.††	12.1	13.2	....	4.84
America Intl.	25.4	27.4	....	1.15
thnt. Cmdty**	43.2	47.0	....	5.25
cum. Units)**	58.6	63.8	....	5.25
Withdrawal**	41.0	44.6	....	5.25

al. ♣Mon. *Tues. ††Wed. ‡Thurs. **Fri.

hway Unit Tst. Mgs. Ltd.♥ (a)(c)
High Holborn, WC1V 7NL. 01-831 6233

way Fund	64.2	68.3	....	6.40

rice at Jan. 19. Next sub. day Feb. 18.

rclays Unicorn Ltd. (a)(g)♥(c)
corn Ho. 252 Romford Rd. E7. 01-534 5544
Castle St., Edinburgh. 031 226 5013

corn America	34.5	36.9	-0.6	2.75
Aust. Acc.	55.9	60.8	-0.9	2.53
Aust. Inc.	45.6	49.6	-0.6	2.53
Capital	51.4	55.6	....	5.32
Exempt Tst.	76.1	79.3	+1.0	7.48
Extra Income	20.5	21.8	+0.2	9.82
Financial	48.5	52.4	+0.1	5.71
500	51.4	55.3	+0.6	6.96
General	22.9	24.8	+0.2	6.91
Growth Acc.	29.4	31.8	+0.1	5.33
Income Tst.	61.8	65.7	+0.5	7.33
Prf. A'ns. Tst.	89.2	92.4	....	5.89
rices at Dec. 31. Next sub. day Jan. 31.				
Recovery	27.0	29.2	+0.2	6.42
Trustee Fund	86.3	91.8xd	+0.5	6.12
W'ldwide Trust	49.6	53.0xd	-0.5	2.58
Ln. Fd. Inc.	145.4	149.9	+0.5	5.65
Accum.	157.7	162.6	+0.5	5.65

ing Brothers & Co. Ltd.♥ (a)(x)
eadenhall St., E.C.3. 01-588 2830

ton Tst.	138.4	144.2	....	4.83
Accum.	165.2	172.0	....	4.83

Next sub. day Jan. 26.

hopsgate Progressive Mgmt. Co.♥
shopsgate, E.C.2. 01-588 6280

se Pr.*Jan. 11	127.5	135.8xd	....	4.60
Units* Jan. 11	146.4	156.0	....	4.60
t. Int. Jan. 18	135.4	140.2xd	....	4.43
Units Jan. 18	146.8	152.8	....	4.43

Next sub. day Feb. 1. *Jan. 25.

Bridge Fund Managers♥(a)(c)
King William St., EC4R 9AR 01-623 4051

Bridge Inc.	174.0	188.0	....	8.66
Bridge Cap. Inc.	25.7	27.4	....	4.23
Bridge Cap. Acc.	27.5	29.1	....	4.23
Bridge Exempt	89.0	94.8	....	6.10
Bridge Intl. Inc.	13.2	14.1	....	4.36
♦Bridge Intl. Acc.	13.8	14.7	....	4.36

Prices Jan. 19. Next sub. day Jan. 26

Britannia Trust Management (a)(g)
3 London Wall Buildings, London Wall,
London EC2M 5QL. 01-638 0478/0479

Assets	54.0	58.0	+0.3	6.78
Bank Ins & Fin.	49.4	53.1	....	5.20
Brit. High Inc.	22.2	23.8	+0.2	11.01
Capital Acc.	40.1	43.1	-0.1	4.58
Comm & Ind	42.8	46.0xd	+0.2	5.09
Commodity	59.9	64.4	-0.1	5.42
Domestic	28.7	30.8	+0.1	5.73
Exempt	70.2	73.7	+0.2	8.96
Extra Income	29.5	31.7	+0.2	10.29
Far East	18.1	19.4	-0.1	6.58
Gen. Fund	27.4	29.4xd	+0.1	4.15
Gold & General	69.1	74.3xd	-0.2	8.17
Growth	62.8	67.5xd	+0.2	5.00
Inc. & Growth	56.5	60.7	+0.1	8.33
Int'l Growth	52.9	56.9	-0.2	4.36
Invest. Tst. Shares	33.1	35.6xd	+0.5	5.00
Minerals	28.0	30.1	-0.1	7.31
Nat. High Inc.	60.6	65.1	+0.1	8.96
New Issue	25.4	27.3xd	+0.8	6.24
North American	28.3	30.4	-0.1	4.16
Professional	367.0	378.3xd	-0.2	5.93
Property Shares	9.3	10.0	....	3.02
Shield	38.2	41.0	....	5.40
Status Change	18.0	19.3	+0.2	7.57

The British Life Office Ltd.♥ (a)
Reliance Hse., Tunbridge Wells, Kt. 0892 22271

BL British Life	41.1	43.9	....	6.09
BL Balanced*	33.9	36.3	....	6.84
BL Dividend*	32.3	34.6	....	8.20

Prices Jan. 19. Next dealing Jan. 26.

Brown Shipley & Co. Ltd.♥ (x)(c)
Mngrs: Founders Ct., EC2 01-600 8520

BS Units*	158.7	158.4	....	7.10
Do (Accum.)*	179.7	189.2	....	7.10
BS Exept. Dec. 31	81.9	86.9	....	8.10

Prices on Jan. 10. Next sub. day Jan. 11.

Canada Life Unit Tst. Mngrs. Ltd.♥
2-6 High St., Potters Bar, Herts. P. Bar 51122

Can. Gen Dist.	30.3	31.9xd	+0.2	4.93
Do. Gen. Accum	35.6	37.5	....	4.93
Do. Inc. Dist.	27.9	29.4	+0.1	8.60
Do. Inc. Accum.	35.7	35.4	....	8.60

Capel (James) Mngt. Ltd.♥
100 Old Broad St., EC2N 1BQ 01-588 6010

Capital	60.3	63.5	....	4.73
Income	53.5	56.4	....	8.38

Prices on Jan. 19. Next dealing Feb. 2.

Carliol Unit Fd. Mgrs. Ltd.♥ (a)(c)
Milburn House, Newcastle-upon-Tyne 21165

Carliol	51.9	54.6	....	4.09
Do. Accum. Units	59.9	62.4	....	4.09
Do. High Yield	29.8	31.8	....	9.66
Do. Accum. Units	33.9	35.9	....	9.66

Next dealing date Feb. 2.

Charterhouse Japhet♥
1, Paternoster Row, EC4. 01-248 3999

C.J. Internat'l	22.0	23.4	....	3.10
Accum. Units	24.8	26.4	....	3.10
C.J. Income	28.4	30.4	....	10.54
C.J. Euro. Fin.	23.2	24.8	....	3.71
Accum. Units	25.6	27.4	....	3.71
C.J. Fd. Inv. Tst	20.8	22.2	....	4.54
Accum. Units	22.8	24.4	....	4.54

Prices on Jan. 12. Next dealing Jan. 19.

Chieftain Trust Managers Ltd.♥(a)(g)
30/31 Queen St., EC4R 1BR. 01-248 2932

High Income	28.6	30.7	+0.2	11.30
International Tst.	(z)23.8	25.6	-0.3	2.10

Confederation Funds Mgt. Ltd.♥ (a)
120 Regent St., W1R 6AY. 01-437 9040

Growth Fund	25.6	26.9	....	7.90

Cosmopolitan Fund Managers.
Copthall Ave., London EC2R 7JX 628 9232

Cosmopoln. Gth. Fd.	13.0	14.0	....	5.96

Unit Dealing: Regent Hse., 23 Victoria St.,
Windsor SL4 1HE. Windsor 55811

Crescent Unit Tst. Mgrs. Ltd. (a)(g)
4 Melville Cres., Edinburgh 3. 031-226 4931

Crescent Growth	20.3	21.8	+0.1	4.38
Cres. Internat'l	45.2	48.5	-0.5	3.20
Cres. High. Dist.	34.1	36.6	+0.2	8.76
Cres. Reserves	31.9	34.5	+0.2	4.07

Discretionary Unit Fund Managers
22, Bloomfield St., EC2M 7AL. 01-638 4485

Disc'y Jan. 14	90.6	96.7	....	7.32
Do. 'A' Accum.	117.8	125.7	....	—

Equitas Secs. Ltd.♥(a)(g)
41 Bishopsgate, EC2 01-588 2851

Progressive	51.6	54.4	+0.3	4.89

Equity & Law Un. Tr. M.♥ (a)(b)(c)
Amersham Rd., High Wycombe. 0494 33377

Equity & Law	53.0	55.7	....	5.23

Framlington Unit Mgt. Ltd. (a)
5-7, Ireland Yard, EC4B 5BH. 01-248 6971

Capital Tst.	63.8	67.8	....	5.32
Income Tst.	59.2	62.8	....	8.52
Intl. Growth Fd.	65.6	69.6	....	3.29
Do. Accum.	65.6	69.6	....	3.29

Friend's Provdt. Unit Tr. Mgrs.♥
Pixham End, Dorking. 0306 3055

Friends Prov. Uts.	31.2	33.3	+0.2	5.15
Do. Accum.	38.3	40.9	+0.3	5.15

G.T. Unit Managers Ltd.♥
16, Finsbury Circus EC2M 7DD 01-628 8131

G.T. Cap. Inc.	61.8	65.7	+0.5	3.70
Do. Acc.	71.6	76.1	+0.6	3.70
G.T. Inc. Fd. Un.	105.6	112.3	+1.5	9.20
G.T. U.S. & Gen.	126.7	134.7	-1.9	3.20
G.T. Japan & Gen.	240.9	256.3	+1.5	0.80
♦Gt. Pens. Ex. Fd.	128.8	135.2	....	2.49
G.T. Int'l. Fund	108.3	115.2	+2.6	1.30

♥G. & A. Trust (a) (g)
5, Rayleigh Rd., Brentwood (0277) 227300

G. & A.	26.0	27.8	....	5.57

Gartmore Fund Managers ♥ (a)(g)
2, St. Mary Axe, EC3A 8BP. 01-283 3531

(z)American Tst.	24.7	26.6	-0.4	1.60
British Tst. (Acc.)	34.7	37.3	-0.1	4.04
Commodity Share	119.0	128.0	-0.7	3.43
Far Eastern Trust	27.9	30.0	....	1.25
High Income Tst.	39.3	42.3	+0.2	11.09
Income Fund	48.5	52.1	+0.2	9.08
Ins. Agencies	£11.74	12.57	-0.10	4.52
Intl. Exempt Fd.	75.3	81.0	-0.4	6.06
(z)Int. Ts. (Acc.)	27.0	29.0	-0.2	1.68

Gibbs (Antony) Unit Tst. Mgs. Ltd.
23, Blomfield St., EC2M 7NL. 01-588 4111

(a) A.G. Income*	28.1	30.3	+0.8	11.00
(a) A.G. Growth††	26.0	28.0	....	6.00
(a)A. G. Far East*	26.8	28.9	....	2.40

Dealing *Tues. ††Wed.

Govett (John).♥
77, London Wall, E.C.2. 01-588 5620

Stockholder Jan. 7	110.8	116.8	+1.1	2.22
Do. Accum. Unit	130.7	137.7	+1.3	2.22

Next dealing day Feb. 4.

Grieveson Management Co. Ltd.
59 Gresham St., EC2P 2DS. 01-606 4433

Ba'tn. Jan. 19	160.6	168.2xd	....	5.86
(Accum. Units)	169.1	177.2	....	5.86
Bng. Hyd. Jan. 20	123.4	129.3	....	9.19
(Accum. Units)	130.7	136.9	....	9.19
Endev. Jan. 18	165.2	173.0	....	4.51
(Accum. Units)	166.9	174.8	....	4.51
G'chtr. Jan. 21	90.8	95.1xd	-2.7	3.68
(Accum. Units)	91.6	96.0	-2.7	3.68
Ln. Br. Jan. 19	62.5	65.4	....	4.95
(Accum. Units)	63.4	66.3	....	4.95

Guardian Royal Ex. Unit Mgrs. Ltd.
Royal Exchange, EC3P 3DN. 01-628 8011

(ag) Guardhill Tst.	69.0	71.5	+0.3	5.21

Henderson Administration♥
Premier U.T. Admin., Rayleigh Road,
Brentwood, Essex. 0277 227300.

(g)Australian	28.9	30.8	-0.1	4.75
(g)Cap. Accum.	27.8	29.6	+0.1	4.19
(g)European	29.7	31.6	....	4.30
(c)Far East	61.6	65.9	+0.7	2.08
(g)Finan.&ITU	19.2	20.5	....	4.31
(g) High Income	38.6	41.3	....	10.87
(g)Inc. & Assets	24.3	26.4	+0.2	6.19
(g)International	25.3	27.1	-0.1	4.96
(g)Nth. American	38.9	41.6xd	-0.6	4.23
N.Amer.Gr.Dec. 24	110.2	115.2	....	4.56
(g)Oil Nat. Res.	22.6	24.1	....	5.78
Worldw'd Jan. 10	56.7	60.6	....	5.63
11, Austin Friars, EC2N 2ED				
Cabot Jan. 19	60.9	64.8	....	5.80

*For tax exempt funds only

Hill Samuel Unit Tst. Mgrs.† (a)
45 Beech St., EC2P 2LX 01-628 8011

(b) British Trust	122.5	131.1	+0.5	5.82
(g) Int'l Trust	32.8	35.1xd	-0.1	3.46
(c) Dollar Trust	69.8	74.7	-0.6	3.60
(b) Capital Trust	23.3	25.0	....	5.53
(b) Financial Trust	74.7	79.9	+0.3	4.97
(b) Income Trust	21.5	23.1	+0.1	7.50
(b) Security Trust	42.2	45.2	....	5.85
(b) High Yield Tst.	21.4	22.9	+0.1	9.01

Intel.♥ (a)(g)
15, Christopher Street, E.C.2. 01-247 7243

Intel. Inv. Fund	76.6	82.5xd	....	5.33

Ionian Unit Tst. Mngmnt. Ltd.♥
64, Coleman Street, E.C.2 01-638 5966

Ionian Foreign*	78.0	86.0	....	1.85
Ionian Growth**	109.0	137.0	....	5.57
Ionian Inc. Fd†	75.0	81.0	....	12.30

Next dlg. *Feb. 10. **Feb. 3. †Jan. 27.

Key Fund Managers Ltd. (a)(g)
25, Milk St., EC2V 8JE. 01-606 7070.

Key Capital Fund	51.1	54.3	....	5.70
Key Energy In. Fd.	57.6	61.2	+0.1	4.17
♦Key Exempt Fd.	80.8	85.9	....	—
Key Income Fund	54.7	58.1	-0.7	9.38
Key F.I.F.	56.1	59.3	....	6.85
Key Fixed Int. Fd.	54.4	57.8	....	12.53
Key Small Co's Fd.	55.9	59.4	-0.7	8.66

Kleinwort Benson Unit Managers♥
20, Fenchurch St., E.C.3. 01-623 8000

K.B. Unit Fd. Inc.	58.8	64.1	....	6.28
♦K.B. Unit Fd. Ac.	69.4	75.7	....	6.28

L & C Unit Trust Management Ltd.♥
The Stock Exchange, EC2N 1HP. 01-588 2800

L&C Inc. Fd.	93.2	96.1	....	9.69
L&C Intl & Gen Fd.	83.9	86.5	....	4.24

Lawson Securities Ltd. (a)(c)(z)
63 George St., Edinburgh EH2 2JG 031-226 3911

♣Raw. Materials	25.6	27.6	+0.4	7.85
♣(Accum. Units)	26.3	28.3	+0.5	7.85
*Growth Fund	47.2	51.2	....	2.25
*(Accum. Units)	50.4	54.4	....	2.25
††Gilt and Warrant	26.0	28.0	....	2.28
‡American Fd.	23.7	25.7	....	1.63
‡(Accum Units)	24.0	26.0	....	1.63
**High Yield	40.4	42.4	+0.4	12.40
**(Accum. Units)	50.9	52.9	+0.5	12.40

Deal. ♣Mon. *Tues. ††Wed. ‡Thurs. **Fri.

Legal & General Tyndall Fund♥
18, Canynge Road, Bristol. 0272 32241

Dis. Jan. 19	41.6	44.0	....	7.26
(Accum. Units)	49.4	52.2	....	7.26

Next sub. day Feb. 16.

Leonine Administration Ltd.
16, Finsbury Circus, E.C.2. 01-236 1171

Leo Dist.	51.7	54.4	....	7.28
Leo Accum.	52.8	55.6	....	7.12

Lloyds Bk. Unit Tst. Mngrs. Ltd.♥ (a)
Registrar's Dept., Goring-by-Sea,
Worthing, West Sussex. 01-623 1288

First (Balncd.)	39.2	42.1	+0.1	5.19
Do. (Accum.)	51.4	55.2	+0.2	5.19
Second (Cap.)	42.1	45.2	....	3.50
Do. (Accum.)	51.1	54.9	-0.1	3.50
Third (Income)	63.9	68.7	+0.4	6.90
Do. (Accum.)	82.1	88.2	+0.5	6.90
Fourth (Exinc.)	45.2	48.6	+0.4	8.72
Do. (Accum.)	47.6	51.1	+0.4	8.72

Lloyd's Life Unit Tst. Mngrs. Ltd.
72-80, Gatehouse Rd., Aylesbury. 0296 5941

Equity Accum.	110.3	116.2	....	5.81

London Wall♥ (a)(g)
1, Finsbury Square, EC2A 1PD. 01-606 5811
Unit Dealing: 18, Canynge Rd., Bristol
BS99 7UA. 0272 32241

Capital Priority	56.0	59.9	+0.5	6.46
Extra Inc. Growth	25.1	26.9	+0.3	12.41
Do. Accum.	26.4	28.3	-0.3	12.41
Financial Pr'rty	12.3	13.1	+0.1	6.30
Do. (Accum.)	14.1	15.0	-0.5	6.30
High Inc. Priority	45.4	48.8	+0.8	8.56
London Wall Int.	26.3	28.1	-0.2	3.29
Special Sits	19.0	20.3	+0.2	5.32
Stronghold Units	28.1	30.0	+0.1	6.50

REGIONAL MARKETS

A selection of the share prices previously shown under regional headings is ented below with quotations on London. Irish issues, most of which are not ially listed in London, are shown separately and with prices as on the Irish iange.

						IRISH		
						Conv. 9% '80/'82	£87¼	+½
my Inv. 20p	18	....	Higsons Brew.	82	+7	Alliance Gas	44	....
Spinning	34	....	I.O.M. Stm. £1	138	....	Arnott	228	....
sin	18	....	Holt (Jos.) 25p	200	+10	Carroll (P.J.)	120xd	....
str. Est. 50p	140	....	Kleen-e-Ze	40	+1	Clondalkin	94	....
er Croft	21	....	Lovell's Ship £1	180	....	Concrete Prods.	51	....
g & Rose £1	360	+10	N'hin. Goldsmith	25	....	Heiton (Hldgs.)	23	....
n (R.A.)	23	....	Pearce (C. H.)	85	....	Ind. News	46xd	+2
s & McHdy.	59	....	Peel Mills	14	....	Ins. Corp.	148½	....
g Fr'k 10p.	25	....	RobbCaledonSh.	46	....	Irish Distillers	43	+1
ed	8	....	Sayers 12½p	16	-1	Irish Ropes	96	....
Forge	49	....	Sheffield Brick	75	+3	Jacob	46	....
ay Pkg. 5p	16	....	Sheff. Refrshmt.	140	....	Sunbeam	13	....
g Ship £1	285	....	Shiloh Spinn.	22	....	T.M.G.	87	+2
n Sleigh 10p	30	....	Sindall (Wm.)	49	....	Unidare	44	....

FINANCIAL TIMES STOCK INDICES

—	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 14	A Year ago
vernment Secs	64.54	64.18	63.96	64.09	63.61	63.16	65.10
ed Interest	65.03	64.85	64.73	64.72	64.28	64.28	62.22
Industrial Ordinary	384.7	385.9	381.6	381.1	374.4	363.9	393.8
ld Mines	106.0	108.2	110.2	112.7	111.3	112.1	221.4
l. Div. Yield	5.87	5.84	5.91	5.92	6.02	6.18	5.27
ning Y'ld % (full)*	18.13	18.09	18.32	18.34	18.65	19.15	15.09
E Ratio (net) (*)	7.91	8.10	7.99	7.98	7.85	7.65	9.76
alings marked	7,872	6,856	8,084	7,855	6,085	6,395	7,865
uity turnover £m.	—	86.99	92.88	95.91	58.60	69.08	96.79
uity bargains total	—	17,361	19,387	18,741	12,923	14,489	19,238

10 a.m. 385.4. 11 a.m. 385.2. Noon 385.8. 1 p.m. 385.9.
2 pm 385.9. 3 p.m. 385.4.

Latest index 01-246 8026.

* Based on 52 per cent. corporation tax. † Nil=7.85.

Basis 100 Govt. Secs. 15/10/26. Fixed Int. 1928: Ind. Ord. 1/7/35. Gold Mines 12/9/55. SE Activity July-Dec. 1942.

HIGHS AND LOWS

—	1976/7 High	1976/7 Low	Since Compilation High	Since Compilation Low
vt. Secs	65.41 (30/1)	55.80 (27/10)	127.4 (9/1/35)	49.18 (3/1/75)
ed Int.	64.72 (18/1/77)	55.57 (26/10)	150.4 (28/11/47)	50.53 (3/1/75)
l. Ord.	420.8 (4/5)	265.3 (27/10)	549.2 (14/9/72)	49.4 (26/6/40)
ld Mines	245.9 [illegible]	78.8 [illegible]	442.3 [illegible]	42.5 [illegible]

S.E. ACTIVITY

—	Jan. 21	Jan. 20
Daily		
Gilt-Edged	283.4	226.5
Industrials	255.3	228.8
Speculative	49.2	48.1
Totals	179.2	156.1
5-day Av'rge		
Gilt-Edged	258.0	255.3
Industrials	240.3	227.1
Speculative	48.8	48.3
Totals	167.3	160.6

FT—ACTUARIES INDICES

—	Jan. 21	Jan. 20	Jan. 19	Jan. 18	Jan. 17	Jan. 14	year ago
lustrial Group	153.30	152.67	151.15	148.87	145.11	145.58	158.78
Shares	176.42	176.23	174.63	172.51	168.79	166.58	173.91
. Yield pc	5.99	5.99	6.04	6.11	6.25	6.33	5.36
E Ratio (net)	9.19	9.21	9.12	9.02	8.84	8.75	10.00
Shares	164.88	164.67	63.15	161.10	157.86	155.69	167.70
sols Yield pc	13.42	13.50	13.50	13.40	13.49	13.66	13.70

BASE LENDING RATES

A.B.N. Bank	14 %
Allied Irish Banks Ltd.	14 %
American Express Bank	14 %
Anglo-Portuguese Bank	14 %
Henry Ansbacher	14½%
Banco de Bilbao	14 %
Bank of Credit & Cmce.	14 %
Bank of Cyprus	14 %
Bank of N.S.W.	14 %
Banque du Rhone S.A.	14½%
Barclays Bank	14 %
Barnett Christie Ltd.	15 %
Bear Securities	14½%
Bremar Holdings Ltd.	14 %
Brit. Bank of Mid. East	14 %
Brown Shipley	14 %
Canada Permanent AFI	14 %
Capitol C & C Fin. Ltd.	14 %
Cayzer, Bowater Co. Ltd.	14 %
Cedar Holdings	14 %
Charterhouse Japhet	14 %
C. E. Coates	15 %
Consolidated Credits	14 %
Co-operative Bank	*14 %
Corinthian Securities	14 %
Credit Lyonnais	14 %
G. R. Dawes	15 %
Duncan Lawrie	14 %
Eagil Trust	14 %
English Transcont.	14 %
First London Secs.	14 %
First Nat. Fin. Corp.	16 %
First Nat. Secs. Ltd.	16 %
Goode Durrant Trust	14 %
Antony Gibbs	14 %
Greyhound Guaranty	14 %
Grindlays Bank	‡14 %
Guinness Mahon	14 %

■ Hambros Bank	14 %
■ Hill Samuel	§14 %
C. Hoare & Co.	†14 %
Julian S. Hodge	15 %
Hongkong & Shanghai	14 %
Industrial Bank of Scot.	14 %
Keyser Ullmann	14 %
Knowsley & Co. Ltd.	15½%
Lloyds Bank	14 %
London & European	14½%
London Mercantile	14 %
Midland Bank	14 %
■ Samuel Montagu	14 %
■ Morgan Grenfell	14 %
National Westminster	14 %
Norwich General Trust	14 %
P. S. Refson & Co.	14 %
Rossminster Accept'cs	14 %
Royal Bk. Canada Trust	14 %
Schlesinger Limited	14 %
E. S. Schwab	15 %
Security Trust Co. Ltd.	15 %
Shenley Trust	16 %
Standard Chartered	14 %
Trade Development Bk.	14 %
Twentieth Century Bk.	15 %
United Bank of Kuwait	14 %
Whiteaway Laidlaw	14½%
Williams & Glyn's	14 %
Yorkshire Bank	14 %

■ Members of the Accepting Houses Committee.
* 7-day deposits 11%. 1-month deposits 11¼%.
† 7-day deposits on sums of £10,000 and under 11%, up to £25,000 11¼%, and over £25,000 11½%.
§ Demand deposits 12%.
‡ Call deposits over £1,000 11%.

INSURANCE, PROPERTY, BONDS

OFFSHORE AND OVERSEAS FUNDS

World Wide Growth Management♦
10a, Boulevard Royal, Luxembourg

WorldWide Gth. Fd.	$US22.27	-0.03		—

NOTES

Prices do not include $ premium, except where indicated ♦, and are in pence unless otherwise indicated. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b Today's prices. c Yield based on offer price. d Estimated. g Today's opening price. h Distribution free of U.K. taxes. x Offered price includes all expenses except agent's commission. y Offered price includes all expenses if bought through managers. z Previous day's price. ● Net of tax on realised capital gains unless indicated by ♦. ‡ Guernsey gross. ♦ Suspended. ♦ Single premium insurance bonds. ● Yield before Jersey tax.

BID TO STOP CIRCULATION FALL BY ATTRACTING MORE YOUNG READERS

Troubled launch of new Daily Express

BY ANTONY THORNCROFT

ANYONE WATCHING commercial television over the week-end can hardly have missed the fact that the Daily Express this morning is continuing the story of the eccentric millionaire Howard Hughes which started in its sister paper, the Sunday Express, yesterday. About £300,000 has been invested in television advertising in just four days, almost certainly the most intensive campaign ever.

This advertising refers to the "new" Daily Express, but the fact that the newspaper has gone tabloid from to-day is hardly emphasised. It is a suitably unusual climax to a rather rushed and troubled transformation of the Express.

It is only five weeks since the decision was announced. In the meantime, the advertisement director of the Express, Mr. Colin Owen-Browne, has left, and the advertising world has been kept in ignorance of the editorial attractions of the tabloid Express.

Only at breakfast time this morning, at a special presentation, will the advertising agency media directors be escorted through the selling pluses of the new format. By that time, they will have bought their own copies of the "new" newspaper anyway.

Such secrecy is in the old Fleet Street tradition of not letting your rivals know what you are about in order to pre-empt them from taking counter action. But it also reflects the negative forces which have pushed the Daily Express into following the Daily Mail, the London Evening News, and The People on to the tabloid trail.

MR. ROY WRIGHT
Daily Express editor

At the core of the Express problem has been falling circulation—from a peak of more than 4m. copies a day to the latest figures, released last week, of an average 2,580,056 in the second half of last year.

The arrival last year of a new editor, Mr. Roy Wright, and a more dynamic approach, with bigger headlines and strengthened women's coverage, failed to stem the decline—the Express is now selling 170,000 capies a day, fewer than a year ago.

The Express was saddled with an ageing readership, at an average of 49.1 the oldest readership of any national newspaper.

What the papers sell

	July-Dec. 1976	April-Sept. 1976	July-Dec. 1975
National mornings			
Daily Mirror	3,864,119	3,872,053	3,918,916
Sun	3,776,972	3,738,656	3,457,455
Daily Express	2,580,056	2,594,862	2,750,614
Daily Mail	1,770,256	1,757,371	1,722,882
Daily Telegraph	1,300,567	1,305,297	1,308,804
The Times	306,741	307,973	310,548
Guardian	301,878	308,399	303,265
Financial Times	173,662	175,088	175,340
Sporting Life	75,619	85,816	81,743
Sporting Chronicle	61,065	66,197	66,991
National Sundays			
News of the World	5,113,517	5,137,053	5,312,845
Sunday Mirror	4,124,430	4,130,590	4,218,573
Sunday People	4,110,276	4,108,546	4,158,024
Sunday Express	3,465,574	3,453,177	3,642,684
Sunday Times	1,388,086	1,364,938	1,363,281
Sunday Telegraph	784,579	734,395	747,819
Observer	662,370	667,897	698,927
London Evenings			
Evening News			
(Monday-Friday)	564,315	555,629	577,457
(Saturday)	548,734	535,118	580,748
Evening Standard	414,349	410,233	435,969

Source: ABC.

As readers died, or stopped buying newspapers, they were not being replaced by younger, more affluent people.

The problems of the Express are very similar to those faced by the Daily Mail five years ago. Its solution was to merge with the Sketch and go tabloid. After an initial fall in sales it has steadily moved towards profitability, building up circulation among the crucial younger people.

The latest figures credit the Mail with 1,770,256 readers daily, a gain of almost 50,000 on the last half of 1975.

The Express is resigned to losing perhaps 250,000 copies a day in the next half-year, just as the Mail did. After that it hopes to build again on the basis of a rejuvenated readership, ending the year with around the present circulation.

In spite of all the secrecy, it is known that the Express will go to six columns a page (which ensures better value to advertisers); present four-page pull-outs three times a week, built round entertainment, living, and money; devote the centre pages to pictures, and serialise eye-catching books.

The formula does not matter too much. What is important is the conviction of the editor. One wonders whether serialising the Howard Hughes story is quite the thing to capture the imagination of the youth market.

The reluctance of the Express to break completely loose from its traditional supporters is reflected in the fact that the Hughes story started yesterday in the Sunday Express—still profitable, with a circulation of 3,465,574 copies in the last half of 1976 (though 180,000 down on the 1975 period).

But half the Sunday paper readers do not take the Daily Express and there is an obvious attempt to stimulate joint readership in spite of the fact that the average Sunday Express reader, at 48.2 years old, is hardly an encouragement.

It seems that the Beaverbrook group must choose between its faithful but declining old readership or take a gamble on appealing to youth.

On the back of the tabloid launch and the Howard Hughes advertising campaign — which will be supported by a promotion offering the new Fiesta car as a competition prize—there is a rise in price. The Sunday Express yesterday went up to 14p and the Daily Express will cost 1p more than the Daily Mail at 8p.

SIR MAX AITKEN
Beaverbrook chairman

This is rather worrying for the advertising agencies, which are responsible for about 30 per cent of the Daily Express' income (the rest comes from the cover price) and which want it to succeed. They are concerned that it is setting its sights on attracting readers from a limited area, rather than taking on the bigger potential of either the Sun and the Daily Mirror market below or the Daily Telegraph above.

TENNIS BY JOHN BARRETT

Taylor hopes to put his back into key U.S. match to-day

PHILADELPHIA, Jan. 23.

AT NOON Britain's fourth-ranked Roger Taylor will to-day play America's doubles expert, Fred McNair, in the opening match of the INA U.S. Pro Indoor Championships here in Philadelphia on the second stop of the 12-tournament World Series of Tennis, which ends in Dallas in the second week of May.

This will be an important test for Taylor, the former British Number One, who, at 35, will be trying to re-establish himself in the world game following a successful back manipulation that enables him to deliver his lethal left-handed serve with something like its old venom.

The two top seeds here, Jimmy Connors (U.S.) and Bjorn Borg (Sweden), met in last year's final when the American won 7—6 6—4 6—0, a victory he repeated in the year's best match in the final of the U.S. Open at Forest Hills in September. In between, Borg won the WCT and Wimbledon titles to finish the year a close second in the world rankings.

Yesterday, on the clay courts of the Boca West Club in Florida, Connors and Borg clashed again in the final of the Pepsi-Cola Grand Slam of Tennis, worth $100,000 to the winner and half as much to the loser—a piquant dress-rehearsal for the major event this week.

Indoor event

To-morrow the first and second ranked British men, Mark Cox, the 14th seed and unseeded Buster Mottram, will be in action. Cox, dashing across the Atlantic from the King's Cup match against Yugoslavia in Belgrade yesterday will play the Russian No. 1 Alex Metreveli, the 1973 Wimbledon finalist. Mottram will also play a second match in two weeks against Connors.

In Birmingham, Alabama, last week he won only five games and the switch that Connors will have to make from outdoor clay courts to the sub-zero temperature of Philadelphia and an indoor Supreme plastic carpet at the Spectrum Stadium may help the 21year-old Briton to improve on that performance.

Since it began 16 years ago the U.S. Pro Championships have become the world's leading indoor event. Last year, a record 79,916 spectators attended the meeting and the profits went as usual towards development of junior tennis in the Delaware Valley area.

Over the years these free public programmes have received more than $500,000 from the tournament—a tribute to the organising abilities of Marylin and Ed Feruberger, the co-chairmen throughout that period.

Three players have been forced to withdraw this week through injury. The 9th seed Arthur Ashe is still having problems with a troublesome spur on a heel that he thinks will now need surgery and his place is taken by the young American Terry Moor. The 13th seed Stan Smith has suffered a recurrence of a painful tennis elbow and is replaced by another of the best young Americans, Trey Waltke. And the 1975 winner Marty Riessen has withdrawn with a damaged wrist.

Evergreen

That offers the opportunity of a match against four-times former champion Rod Laver for 22-year-old Pat Du Pre of Birmingham, Alabama, who we saw in Britain two years ago as a member of the successful U.S. team which won the BP Cup.

Outside Wimbledon and Forest Hills this week's field will be the strongest assembly of tennis talent in the world this year.

Ilie Nastase (Romania) the third seed will be bidding for his first title as will the newly crowned Master, Manuel Orantes of Spain, who is seed fourth. Italy's Davis Cup hero Adriano Panatta is the fifth favourite followed by three Americans—Harold Solomon, Eddie Dibbs and Brian Gottfried.

It is a measure of the eclipse of Australia as a tennis power that their only representative among the seeds is that evergreen veteran Ken Rosewall, the tenth seed, who at 42 is still the man they all like to avoid.

BRAZILIAN GRAND PRIX

Reutemann's Ferrari too much for Hunt

CARLOS REUTEMANN, the Argentinian, driving a Ferrari, won the Brazilian Grand Prix comfortably here to-day.

He covered 198 miles on the Interlagos track in 1 hour 45 minutes, 7.7 seconds at an average speed of 112.92 mph.

James Hunt, Britain's world champion, was second in 1-45-18.4 in his McLaren. Third came the Austrian Niki Lauder in another Ferrari. He took 1-46-55.3.

Only seven of the 22 starters finished the 40-lap race over the tough 4.98 mile course, with temperature nearly 90 deg.F.

After the race Reutemann said his tyres were so thin that two more laps would have finished them.

Hunt stubbornly fought his way back after the heat knocked out one of his tyres and forced him to abandon the track briefly while in second place.

Brazilian favourite Emerson Fittipaldi was fourth in a Copersucar Fittipaldi. Gunnar Nilsson, of Sweden, in a Lotus, was fifth. Renzo Zorzi of Italy sixth in a Shadow, and Ingo Hoffman of Brazil seventh in a Fittipaldi.

Hunt put in the fastest lap, at an average of 115.14 mph.

Jochen Mass, of West Germany, in a McLaren, and Clay Regazzoni, of Switzerland, in an Ensign, ran off the track at the third curve, and Ronnie Peterson, of Sweden, who was close behind got involved in the accident. No one was hurt.

Later, Patrick Depailler, of France, skidded his Tyrrell off the track at the same point and injured a knee. Altogether eight cars were trapped by that bend.

The heat may have contributed to what some drivers called the breaking up of parts of the track surface.

John Watson, of Britain, who skidded out of the race in his Brabham on the 30th lap, said: "It's really terrible out there."

Reutemann said: "I won because I changed the suspension shortly before the race. Lauda is mad because he didn't change his."

Hunt had the pole position, but Brazilian Jose Carlos Pace, jumped from the third row to lead early on. Hunt passed him in the seventh lap and in the process Pace's radiator was punctured. It had to be plugged by pit crews.

Asked about the accident, Hunt said: "Ask Pace. He must have run into my rear wheel sideways."

Hunt led until after the half-way mark. On leaving the pits with a new wheel he was 25 seconds behind Reutemann, and could only cut the margin.

Agencies.

SKIING BY ARTHUR SANDLES

Klammer makes it 10

IN DAZZLING Alpine sunshine, which television captured perfectly, Switzerland's Bernhard Russi produced as near perfect a downhill performance on Wengen's Lauberhorn run at the week-end as he has ever done. But it was not enough.

When Franz Klammer of Austria came down the course, his crouching style turning him into a red bullet against the crisp white background, Russi could only watch in admiration.

When Klammer reached the stopping area, the winner of his tenth successive downhill race, it was Russi who came up to him, put his arm on the Austrian's shoulder and, after congratulations, walked off grinning a wry grin and shaking his head. Can nothing beat Klammer?

Men's Downhill: 1 Franz Klammer 2:35.66; 2 Sepp Ferstl 2:36.65; 3 Bernhard Russi 2:36.78

Men's Slalom (combined times): 1 Ingemar Stenmark 1:35.36; 2 Paul Frommelt 1:36.31; 3 Klaus Heidegger 1:37.06.

World Cup standings: 1 Franz Klammer 133 points; 2 Ingemar Stenmark 120; 3 Klaus Heidegger 116; 4 Gustav Thoeni (Italy) 90; 5 Walter Tresch (Switzerland) 81.

Jobless rise likely

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

THE RISING trend of unemployment should be confirmed to-morrow when the results are announced of the first full jobless count for three months.

An industrial dispute within the Department of Employment has prevented publication of the full figures since October. Although normal work has started again, it will only be possible this month to announce figures for unemployment and not for vacancies.

Last month the Department estimated, on returns from half the country, that adult unemployment in the U.K. had risen by 24,000 since October, and by 155,000 during the whole of 1976, to 1.33m., seasonally adjusted.

These figures, said to have a wide margin of error, suggested that unemployment was continuing to rise by about its average rate since the early summer of 12,000 a month.

The main forecasts which have appeared since the economic package last month all project a further rise in the jobless total this year.

This has been conceded by the Government, but it has refused any precise estimate of the possible rise and has argued that last month's economic measures will not increase jobless by year end.

A further increase is likely this year because the projected economic growth rate of 2 per cent. is below the underlying growth in productive potential and will be insufficient to absorb people joining the labour force.

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FINANCIAL TIMES SURVEY
Monday January 24 1977

Energy for Industry

With a wealth of evidence that future energy supplies will be increasingly expensive, conservation is assuming a major role in future energy planning. Industry is already reacting to the challenge, and following its Save It campaign, the Government is working on plans for an Energy Commission.

Plenty—at a price

by Ray Dafter, Energy Correspondent

WITHIN THE space of a few year oil companies raised U.K. public spending cuts and a reduction in borrowing requirements British Gas may be forced to raise tariff prices by about 10 per cent. in April. Industrial contract customers should not be directly affected, for up to now the Gas Corporation has managed to stave off demands, made by some of the competing energy interests, that there should be a general "tax on gas" to promote conservation and to make the prices of various fuels more evenly matched.

The industrial users of coal who faced a 15 per cent. price rise in April last year will certainly find prices going up again this year although by how much is still unclear. The rise will largely depend on the calculated cost of the miners' early retirement scheme. An increase of 15 per cent. has been mentioned in the Press but this figure must be speculative pending an announcement from the Coal Board.

Dr. John Cunningham, Parliamentary Under Secretary of State for Energy, in a special message for this report, pointed out that overall consumers were paying some £1.5m. an hour for energy. "The need to optimise its efficient use must be clear to all."

As Minister responsible for energy conservation Dr. Cunningham emphasised the importance of prudent fuel use. "Maximum economic efficiency in the way we use energy pays immediate dividends for all energy users — at work and in the home. In industry and commerce particularly, energy efficiency sharpens the competitive edge. And until we are self-sufficient in oil supplies, energy saving will help to ease the burden of the oil bill."

Energy efficiency would contribute greatly to staving off the day when North Sea oil and gas ran out. "And when they have, energy efficiency will still be playing an important role in meeting our energy needs. Because in the 21st century, energy conservation will be no mere option, but an essential ingredient of energy supply."

Each of the major energy industries has taken positive steps to advise on conservation measures. They have also done much themselves to be more energy-efficient.

For instance, the National Coal Board—currently Britain's biggest producer of primary energy—has set itself the task of reducing its energy consumption by 10 per cent. in two years. In 1975-76, the first year of the programme, it achieved a saving of 6.2 per cent.; a financial saving of about £2m. according to the latest Coal and Energy Quarterly published last week.

By March the Government will have spent over £6m. on its "Save-It" campaign. Some of the new advertisements are aimed directly at industrialists showing how capital costs can generally be recovered, in energy savings alone, within two years. West Midlands tubemakers, TI Accles and Pollock are highlighted because they invested £7,000 in a gadget called a heat optimiser and saved £12,000 worth of fuel in the first year.

On a bigger scale Vauxhall found that by investing £20,000 in nine pairs of fast-acting automatic doors they kept £50,000 worth of heat from escaping in the first year. A further £5,000 spent on time clocks for heating, ventilation and lighting installations saved an even more impressive £58,000. During 1975 Vauxhall managed to reduced overall energy costs by no less than £500,000 through various measures. This year the group is investing £130,000 in a computerised central control designed partly to check energy usage throughout their Dunstable plant.

How effective the Save It Campaign has been in itself is extremely difficult, and probably impossible, to quantify. But clearly higher fuel costs and the growing awareness about the need for energy efficiency have resulted in tangible savings, probably more than the 2 per cent. quoted by the Government last year.

A report on energy markets to 1990, published earlier this month by Cambridge Information and Research Services, sees no reason why, over the decade to 1985, savings of 15 per cent. should not be achieved by industry. Indeed the report goes on to state: "We believe that our projection of 15 per cent. conservation by 1985 is a conservative estimate and that with increasing costs of fuel in real terms in the 1980s the amount of conservation in 1990 could be greater."

This sizeable conservation factor is one reason why Cambridge Information believes that Britain's energy self-sufficiency, which should be reached in 1979 or 1980, should last well into the 1990s, a prophecy that counters recent claims that it will be a relatively short time before the country returns to being a net importer of fuel.

Cambridge Research believes that given an extremely low rate of domestic energy use over the next 15 years or so and given the large reserves of home-produced coal, gas and oil, Britain should be able to export large volumes of energy well beyond 1990.

Co-ordination

What is particularly important from the viewpoint of industrial and commercial users is that they will enjoy a far higher degree of security of supply than in the past. "No one need be concerned about investing in oil and gas equipment on the basis of lack of forward supply," the report adds.

Mr. Frank Chapple, chairman of the TUC Fuel and Power Industries Committee, last week called on the Government, trade unions and industry to formulate a co-ordinated energy policy that would take advantage of Britain's fuel supply position. In particular, he said, there was a need for an early decision on the Drax B coal-fired power station. But Drax B was not an alternative to the nuclear programme; there was also a need to develop the fast breeder reactor for Britain's energy supplies in the 1990s. If Britain limited its nuclear development now it could deny itself not only important energy potential but also the technical knowledge which other countries could accumulate to their competitive advantage.

These are some of the problems likely to be tackled by the Government's proposed (and much needed) Energy Commission. Clearly this is no time for complacency. North Sea oil and gas, backed by vast coal resources, have provided the country's economic planners with a breathing space. Britain is moving into a uniquely favoured position among industrialised countries on the energy front; but it will not last for ever. Future generations would never forgive Government, managements or trade unions if they squandered this opportunity of injecting new economic and industrial life into Britain.

A concerted policy

LAST SUMMER the Government published its reply to a highly critical report 10 months earlier from a Parliamentary select committee on its energy conservation programme. Perhaps its most dramatic proposal was that it would set up a Committee of Ministers to promote and co-ordinate energy conservation within and outside government.

The committee, on which all government departments are represented at ministerial level, has met twice in the ensuing six months, the last time last month. One result has been a joint job-creating and energy conservation programme, in which local authorities are encouraged to improve the standard of insulation of buildings they own—any advantage from which would accrue to the tenants—by central government's readiness to meet the labour costs of the work.

Department of Energy officials admit that this scheme is not moving as fast as some had hoped. Only 10,000 buildings are being financed so far, against earlier optimistic expectations of 100,000. But they see it as a useful start in attacking an inter-departmental problem of a kind that characterises almost every aspect of energy conservation. It was this aspect of energy conservation — the fact that it is, in one senior official's words, "an absolutely ghastly subject to organise" — that the Select Committee on Science and Technology so dismally failed to grasp from its own study in 1975. The ministerial committee has led to what in effect is a network of "hot lines," whereby departments often in open competition for scarce cash can talk constructively about some facet of energy conservation of potentially mutual or general advantage.

Behind this council of ministers stands the Advisory Committee on Energy Conservation under Sir William Hawthorne, charged with taking a fresh look at any and every facet of conservation. The ACEC is untrammelled by the presence of "vested interests" in the shape of Government officials (although it can co-opt them for advice). It has already generated a series of "energy papers" which are beginning to influence ministerial thinking, even if only in demonstrating that no facet of energy conservation can be treated in isolation, in a belief that it will not have consequences elsewhere — perhaps very widely — in the economy.

The Government has also sustained its Save It campaign promoting the virtues of energy conservation. The primary target of the Save It campaign of national advertising has, it is true, been the domestic sector, which has accounted for over £5m. of the £6m. allocated so far. But the emphasis currently and in future planning is on the industrial sector, accounting for just over 40 per cent. of national energy consumption. The Department of Energy, responsible for planning and monitoring the campaign, claims that it has helped to establish energy conservation as a constant and enduring component of energy policy in Britain. Its market research has already demonstrated an acute need for information and advice.

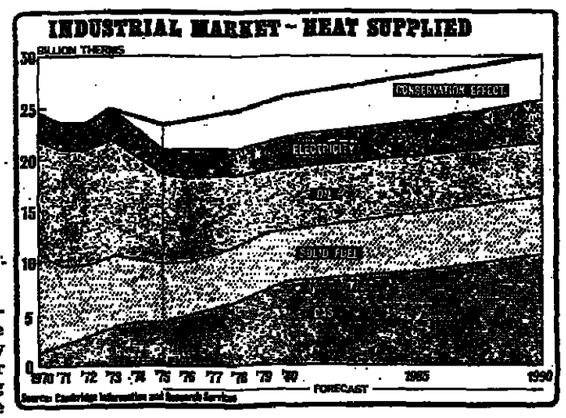
Needs

The energy department is arguing for a long-term commitment to the campaign, on the basis that this is the way to get greatest value for money, both in terms of preferential advertising rates and by allowing it time to work with manufacturers of energy - saving measures to ensure that demand cannot outstrip supply. So far the Treasury has proved unwilling to accommodate its aspirations and has authorised only *ad hoc* allocations, the fourth and latest of which will be spent this spring.

More specific, detailed and technical advice for industry is being prepared under a number of schemes launched by the departments of Energy and Industry. Most ambitious is the Department of Industry's energy audit scheme, where particular sectors of industry are being studied by an expert committee with, to quote the White Paper on energy conservation, "a view to determining the best current practices that could with advantage be more widely adopted and the research and development opportunities for securing further improvements in industrial energy use." The first of its reports, on the iron-founding industry, is about to be published, and others on the chemical, food, and refractories industries are in preparation. These studies, involving visits lasting up to two weeks to selected companies, are being planned with the help of both the TUC and the CBI.

Two important messages emerging from the energy audit scheme are, first, that technology already available, if more widely used, could make an important impact on industry's consumption of energy; and, second, that there are major gaps which promise to yield to research and development projects. By the spring of next year, the government expects to be armed with an impressively convincing picture that could help importantly to shape British industry's investment plans for the 1980s.

A more superficial exercise, launched 18 months ago, is the industrial energy thrift scheme of the Department of Industry, so named as to stress the Victorian virtue of thrift, which involves essentially one-day visits by energy experts from the research associations to selected companies. This is a free service from the standpoint of industry, primarily directed at the "housekeeping" practices of the smaller manufacturers. It is providing the department with more intimate information about industry's use (and abuse) of energy, and what research the department might mount in this sector. By the summer, the energy department believes it will be armed with a great deal of new information about industrial practice relating to energy. This is all being fed back into the Save It advertising campaign.



For those companies which co-operate—about one in five of those approached—the scheme can provide useful *ad hoc* advice on measures that save money immediately. For example, the Rubber and Plastics Research Association—one of eight RAs co-opted to implement the thrift scheme—has been able to point out to small chemical and plastics companies that a leaky steam valve is costing as much as £250 a year, and that failure to insulate a reaction vessel can add £100 to a company's annual energy bill. The Electrical Research Association has found that it can often point out the surprisingly high cost to a company of a low electrical power factor, arising from the imbalance in its electrical demand, and how simply and inexpensively the conditions can be rectified.

Anonymity

Lest companies should be worried that the Government will use information gleaned on the shop floor to a manufacturer's disadvantage, should it be profligate in its energy usage, the Department of Industry promises both anonymity for the information provided, and also a sight of the final report before it is fed into the computer. Once in the computer, the dossier is married up with information gathered from the energy audits, to provide a detailed picture of energy flow patterns in industry. One company whose own studies have already convinced it of the scope for considerable energy savings in new generations of plant is ICI, which is coming round to the view that minimal energy use and intrinsic safety are two factors which have to be worked out in detail at the planning stage of its future plants.

On the face of it, the Government (for a quite modest investment in energy conservation) has already achieved impressive savings. Department of Energy statisticians speak of savings of 2 per cent. in energy demand—worth £150m. a year at current prices—and stress that this is a conservative estimate. In addition to the £6m. allocated to the Save It campaign, the Government has spent about another £1m. all told gathering information in support of energy conservation policies yet to be implemented.

One school of thought in the Department of Energy contends that the most significant—perhaps the over-riding—factor in energy saving has been price increases. These certainly made it comparatively easy to achieve initial savings, and are still the simplest way of motivating people to save. Nevertheless, there is evidence that over the past three years energy costs in Britain have not risen faster than inflation. Moreover, the scare of an enduring energy shortage in Britain has receded at least to the 1990s.

Thus another school of thought in the Department of Energy sees the price mechanism as a declining force in persuading Britain to take the trouble to save energy. This school is anxious to sustain a campaign of increasingly sophisticated and refined advice and exhortation directed at energy users. The cost, it believes, although high compared with the usual government promotion campaigns, which are normally short-lived, would on the evidence so far be amply repaid by the savings.

David Fishlock
Science Editor

Whitehall sets an example

"PRACTICE WHAT You Preach" might easily be the motto of the Property Services Agency as it pursues what is possibly—the Government's overall campaign apart—the largest single energy conservation programme in the country.

For the PSA, which is responsible for management of the entire Government estate, both civil and military, has more opportunities than most other organisations to demonstrate to industry, commerce and the general public the real cost-saving potential of a concerted and well-co-ordinated energy saving programme.

Not that the PSA has only just woken up to the benefits to be derived from a painstaking evaluation of the most efficient usage of energy supplies and putting its findings into effect. Efforts to cut down fuel requirements across the many activities embraced by the PSA have ranked high in the Agency's list of general policy considerations for some time, certainly well before the Government's general Save It campaign began in the wake of escalating oil prices.

Recent figures show just how immense the Agency's thirst for energy has necessarily become and, hence, how substantial the scope for savings now appears to be. In 1975-76, PSA spent in excess of £26m. on fuel, the bulk of this expenditure going on solid and liquid fuel, but with sizeable amounts also accounted for by gas and electricity.

The Agency, aware of the contribution which an energy-conscious approach to its affairs could play in reducing the nation's bills, has in fact undertaken to reduce its annual fuel consumption by no less than 30 per cent. in the five years ending in 1979. The target reduction is a large one but officials have been heartened by the success notched up to date and remain confident that the programme can be achieved.

The PSA campaign is controlled centrally from London headquarters but monitored throughout its eight separate regions, including Scotland and Wales, with each unit co-ordinating the work of the Agency's mechanical and electrical engineers and putting their recommendations into effect. Continuing liaison with the Department of Energy is also maintained and a profitable cross-fertilisation of ideas and schemes has resulted from the DE's co-ordinating committee, on which the PSA is represented.

No stone—or more appropriately, labour exchange or Whitehall office building—is being left unturned in the search for potential savings. As if to set the tone for the whole campaign, PSA has ensured that the prevailing temperatures in all government buildings housing personnel is set at 65 degs F as opposed to the 68 degs F actually recommended to commerce and industry by the Department of Energy. A simple measure like this, however, can lead to savings of many millions of pounds when it is multiplied throughout the PSA's estate.

Achievement

Perhaps one of the PSA's greatest single achievements to date has been the development, in conjunction with Honeywell, of an optimum start control system, now being used in Government buildings in every part of the country. The system has been especially designed to match the particular heating requirements of the PSA's many buildings which are only intermittently occupied and it has now been in use for about two years. A timing mechanism trips the heating system in advance of the employees' arrival and shuts it down after their departure, ensuring that fuel consumption is strictly limited to that period when personnel are likely to benefit.

The PSA has also devised a tariff selection computer programme aimed at ensuring that its gas and electricity supplies are provided under the most beneficial tariffs available. The Agency's departments have found that there are so many different pricing arrangements under which they can pay for the energy consumed, depending on such variables as time and volume, that it has now computerised its nationwide energy requirements in another attempt to ensure the most efficient consumption pattern.

On a more basic level, PSA has been responsible for developing its own energy saving canteen equipment for offices and catering operations in the armed forces. One electrical engineer in East Anglia suggested a timing control on cookers which has led to an annual saving of £40,000 and a reward for his efforts from the Department of the Environment.

Apart from its attempts to improve insulation standards in existing buildings, the PSA is also endeavouring to see that any new buildings which it commissions are properly thought out in energy-conscious terms, a development which industry and commerce generally has yet to emulate despite the recent shocks to the system delivered by the OPEC countries.

And it is with an eye on industry and commerce that the PSA pursues its own energy-saving programme. For while it is anxious to reduce its own bills, it is equally aware that an example must be set if industry at large is to take the question of energy-saving seriously. The hope that large increases in energy costs will be sufficient to sustain a programme of economy is not sufficient, for while there is evidence that this happened after the oil crisis, there is already evidence that price resistance is to some extent already being overcome and that consumption is again creeping up, a trend which a new phase of industrial expansion would surely speed up.

Michael Cassell

The Save It campaign

TWO years ago the Department of Energy was busy inquiring of companies up and down the land: "Who's responsible for wasting energy in your firm?" It didn't have quite the same punch as the Kitchener recruiting posters of the First World War but it shared the urge to awaken some sense of social responsibility among the citizens.

It also spawned the Save It campaign, which, with a budget of £6.1m. in the three years 1974-75 to 1976-77, has tried to hammer home to industrial and domestic user alike the paramount importance the Government attaches to energy saving. Last year the bill for importing oil rose to some £4bn., an increase of £3.2bn. on the 1973 account despite the fact that the volume of imported oil dropped by 30 per cent. In 1975 conservation measures, which included the effects of prices and the Government's publicity campaign, were estimated to have produced savings of 2 per cent. equivalent to £150m. worth of imported oil.

Of the £6m. publicity programme only about £1m. has been spent on persuading industry of the attractions of saving energy costs. The bulk has gone on the domestic campaign, despite the fact that industry accounts for about 40 per cent. of total energy consumption and the domestic sector for about 25-26 per cent. The industrial programme has identified three major types of energy saving. The first method has been described as good housekeeping, which can produce immediate short-term benefits. Ideally such measures require co-operation from every level in a company from top management to the shop floor, and among the confetti of literature produced by the Department of Energy there are many practical suggestions for cutting waste from checking that a factory is not overheated to making sure that exits and windows are not left open unnecessarily, to examining possibilities of recovery of heat and waste materials which might now be vented directly into the air outside.

The basis of the campaign in industry has been to sell energy saving as a way of cutting costs, often with dramatic effect. Thus the current phase of the advertising campaign has moved a long way from merely pointing out to companies that a member of top management should be responsible for energy conservation. That commitment must be made at Board level to energy saving with someone appointed with specific responsibility for cutting energy costs.

Industrialists are urged to follow the example of a Somerset printing firm, Mardon Flexible Packaging. A heat regenerator wheel installed to recover heat from contaminated hot air from the ink-drying process reduced fuel costs by 43 per cent. Investment of some £35,000 was necessary but the payback will come in under three years and will be accelerated if fuel prices continue to rise.

Reckitt and Colman's pharmaceutical division took steps to reduce heat loss through the roof of one of its Hull warehouses and through the installation of £11,000 worth of insulation material have cut fuel costs by at least £5,000 a year. The sealing of some windows and ventilators in the office block and the lagging of 3,000 feet of pipework throughout the factory could save another £9,000 a year.

The new awareness of how important a cost component fuel consumption can be, has spawned a whole profession of energy managers. Energy conferences are now a regular part of the industrial scene, usually instigated either by the Departments of Energy and Industry or by major nationalised energy suppliers, particularly British Gas.

Promotions

The campaign has been accompanied by a welter of promotional material. The Energy Department appears proud that it has disposed of 1.7m. Save It posters and 1.5m. stickers and it is well on its way to distributing another 250,000 posters from a new series. Two films are available for industrial audiences, and a series of seminars around the country organised by junior chambers of commerce have not suffered from any lack of Ministers and officials to address them.

The same depth of research however, has not been undertaken on the efficacy of the industrial campaign, as has been a feature of the domestic programme. In the latter detailed attitude surveys have been made to discover how people approach the whole topic of energy conservation, and there has been a concentration on finding ways of changing simple awareness into action and of ensuring that one step towards cutting fuel bills—perhaps the provision of cylinder jackets—naturally leads to other moves such as loft insulation or double glazing.

Nothing of this kind has been done on the industrial front, but specific schemes have been launched for industry with varying success. One of the earliest, that made little impact, was the Energy-Saving Loan Scheme started in December 1974. The Government decided that one of the major hurdles confronting companies wishing to invest in energy saving equipment was a lack of capital. To overcome liquidity problems loans of at least £10,000 and no more than £100,000 were made available for periods up to five years. But the rates were hardly any more attractive than those that could be obtained on the commercial market, and by the time the scheme came into operation liquidity problems had eased.

The Government decided that it could not subsidise conservation measures, they had to be economically priced and it has had to fall back on publicising the efforts made by individual companies on their own initiative. Less than ten companies took up the proffered loans and only £97,000 has been advanced to date, despite the fact that the scheme has also been opened up for applicants from commerce.

The minimum loan of £10,000 proved to be a disincentive as this precluded many smaller companies or projects of limited scope. In order to bring the smaller industrial, commercial and public sector energy users into the conservation net the Department of Energy has now launched the Energy Survey Scheme. This subsidises one-day visits by consultants to advise on energy saving measures—and the Government agrees to provide 50 per cent. of the fee up to a maximum of £30.

It has been a recurring criticism from some of the main energy suppliers that the conservation message has been failing to reach the smaller energy consumers. Big users—it has been estimated that 14 companies from British Leyland and the British Steel Corporation to Courtaulds, Esso and Reed International, account for more than half of the U.K.'s industrial energy consumption—were already energy conscious before the OPEC increases were implemented.

A major objection raised by companies to investment in energy saving measures has been that any cost savings achieved were negated by the strictures of the Price Code, which ruled out the carrying forward of improved profits derived from savings on fuel. This objection has now been eased by changes in the Code that were effected in August. These set out that any reductions in production costs, that had been achieved through savings on fuel and power since the date of the last price increase, should be left out of account.

But some officials in the Department of Energy who are leading the Save It campaign feel that there are other accounting obstacles still to overcome. They would like to see a blurring of the traditional distinction between capital and revenue accounts.

Frustration

Despite the Government's obvious commitment to the cause of energy conservation there is still some frustration felt in the Department of Energy at the piecemeal way in which their campaign must be conducted. A Ministerial committee has been formed to co-ordinate functions relating to energy among several Departments, but the kind of long-term measures that could provide savings on a grand scale, such as those that might be derived from higher building standards, are clearly beyond the scope either of the Department of Energy's campaign or the committee's remit.

Two major schemes in the energy conservation programme are conducted by the Department of Industry, however, which also acts as agent for the Energy Department in the regions. The Industrial Energy Thrift Scheme and the Energy Audit Scheme are both designed to obtain information on the way energy in all its forms is used in industry. It will be used to advise the various sectors of manufacturing industry on the most likely areas where wastage can be avoided, and will also help in the formulation of strategy regarding the identification of opportunities for new technology and alternative processes and materials.

Kevin Done

Since you started planning that new plant there's been a change in the fuel situation. There's a New Gas Era coming in.

This year's plans for your industrial and business expansion should take account of an important new factor.

In the autumn big new gas supplies will come ashore from the North Sea. When fully operational there will be nearly 40% more gas than we're getting now.

It will give a big new boost to our balance of payments, and increase the efficient use of our national energy resources. Good news for Britain and British companies for many years to come.

Perhaps in the past you haven't been able to plan ahead with Gas because we haven't been able to let you have as much as you needed.

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ENERGY FOR INDUSTRY IV

The following four articles discuss the main fuel industries and the position each holds in the nation's energy supply pattern.

The producers

OIL

BRITISH INDUSTRY has *entered 1977 in the knowledge* that its supplies of oil products —for heat, power or as feedstock—are becoming more secure as every month passes. This year, the equivalent of between one third and a half of the U.K. domestic oil consumption will be met by North Sea production. By 1980, or possibly a year earlier, the U.K. Continental Shelf will be yielding enough crude oil to satisfy all domestic needs, at least theoretically.

Not that the days of oil imports will disappear. Britain will continue to buy in large quantities of heavy crude oil in order to maintain the right refinery "mix." U.K. oil is too light to economically satisfy all of the demand. The important point is that there will be more than enough of this lighter, premium grade North Sea crude available for export.

How long this self-sufficiency in oil will remain is a moot point. On current development programmes it will last no more than two or three years, but this is taking an unreasonable, over-pessimistic view of prospects.

There are currently 14 fields either producing oil or being actively developed. Between them they have estimated recoverable reserves of well over 8bn. barrels. The commercial potential of a dozen or so other fields is also being evaluated and it is quite possible that within the next 12 months companies will sanction the development of seven or eight more fields with over 2.5bn. barrels of recoverable reserves.

According to the Department of Energy's "brown book" — Development of the Oil and Gas Resources of the United Kingdom, 1976 — total recoverable reserves from currently designated areas are expected to be between 22bn. and 33bn. barrels (between 3bn. and 4.5bn. tonnes). In addition there could be appreciable accumulations of oil in the Western Approaches and north of the 62nd parallel — areas yet to be designated.

Consumers

Consequently oil consumers can be assured of U.K. crude production lasting well into the 1990s and perhaps — given good fortune and reasonable Government legislation — into the next millennium. It is a happy prospect, particularly after the uncertainties created by the Middle East embargoes and big price increases in 1973 and 1974.

Not that the uncertainties are over. The future level of oil and product prices is far from clear, especially since the Organisation of Petroleum Exporting Countries' decision to impose a two-tier increase on January 1.

As it was, domestic pricing was in a muddle. During 1976 the oil industry adjusted their price levels for refined products on no less than four occasions The last time was in December when fuel oil and gas oil went up by between 1.8p and 2.5p a gallon.

The main reason for last year's price adjustments was the impact on costs of the falling value of the pound against the dollar. After all, OPEC had held stable its basic crude oil prices for over 15 months. On the face of it oil users — be they petrol buyers or industrial customers — can expect another increase in product prices in the next couple of months. This should reflect the OPEC's decisions.

It is too early to be precise about the likely rises, however. In the past Britain, like the rest of Europe, has been heavily dependent on crude oil imported from the 11 countries that decided on a 10 per cent. increase in January. Latest published statistics show that in the 10 months to November 1, Britain imported only 22 per cent. of its crude oil (15.8m. tonnes) from Saudi Arabia and Abu Dhabi, the two OPEC "doves" that agreed to restrict the increase to 5 per cent.

Inevitably, the past few weeks have seen oil company buyers feverishly checking their crude oil supply contracts and requirements. The outcome of their activities is still hazy but it seems likely that: (1) Britain will lift more oil from Saudi Arabia this year: (2) the two-tier system will break and there will be a settling down of price increases to nearer the 5 per cent. mark; (3) North Sea crude oil could command an increase of 7 to 8 per cent. in view of its premium quality rating. The chances of another 5 per cent. increase in mid-1977, as decided by the 11 OPEC "hawks" seem to be receding in view of Saudi Arabia's determined defence of pricing restraint.

How all this works out in terms of product pricing is perhaps even more baffling, for here "customer demand" rears its head. In the past year the demand in most sectors—particularly industry—has been depressed. Consequently oil companies have been unable to implement fully even those price adjustments that had received the nod of approval from the Price Commission.

Statistics provided by the Institute of Petroleum illustrate the cause. Demand for oil products during the first nine months of 1976 was 63.3m. tonnes, 1.2 per cent. down on the depressed levels recorded in the corresponding period in 1975. Although sales of naphtha, used mainly as a chemical feedstock, rose by 9.1 per cent., the demand for fuel oil and gas/diesel oil fell. The drop in fuel oil consumption was particularly marked, more than 2m. tonnes down at 20m. tonnes.

Supplementary information published with the Department of Energy's latest set of Energy Trends, illustrates the effect. The average price of heavy fuel oil delivered to large industrial customers in the third quarter of 1976 was £43.10 per ton, a 31.4 per cent. rise on the corresponding period of 1974. The rise in gas oil prices was even less, barely 19 per cent. These increases were very much lower than those for coal, gas or even electricity.

(Comparative prices realised in new and renewed medium-size contracts were £45.4 per ton for heavy fuel oil—up 34.3 per cent.—and £70.6 a ton for gas oil, a 32.9 per cent. rise).

Recession

But it is not only the economic recession that has dulled the demand for refined products. Oil companies have met understandable resistance from budget-conscious customers. There has been a tendency for industrial and commercial customers to look for energy conservation and, if possible, to switch fuels. Of course, the big increase in crude oil prices in 1973-74 was largely responsible in itself for the recent economic recession.

The Department of Energy, in a paper on U.K. energy supply and demand prospects presented to the National Energy Conference in June, commented: "Oil price increases over the past three years put oil prices clear of the average costs of competing primary fuels, although the gap has narrowed and there is some overlap at the margin."

Security

Given the rising prices of all fuels and the security of crude oil supplies, it seems certain that oil products will remain an important and growing source of energy for industry, both as a fuel for power and transport and as a chemical feedstock. On a heat supplied basis oil already accounts for 40 per cent. of industrial energy. The electrical generating sector, chemical companies, steel makers, paper makers and oil refineries themselves have a particularly healthy thirst for the gas/diesel oils and fuel oils.

North Sea oil can only help Britain's energy supply position although the rapid development of the state-controlled British National Oil Corporation is causing some concern among the oil majors. In the next few years BNOC executives will be learning the trade from companies like Shell, Esso and BP. By the early or mid 1980s the Corporation may be ready to move "downstream," as marketers of refined products. Present intentions are unclear but much will depend on the political climate at that time.

With or without BNOC presence the oil marketing business looks like remaining extremely competitive, which must be good news for buyers. On the other hand it is clear that oil, like other fuels, will never again be cheap. The need for prudence and conservation cannot be ignored, as it has the industry's cost, in the past.

Ray Dafter

COAL

THE ROLE of North Sea oil in the progression of the British economy is well understood. It will give a tremendous boost for a limited period. But British coal resources must be considered in a quite different time scale. Our oil may last 20 years; even 50 years. Inland British coal reserves are so extensive that coal usage could be raised by at least 50 per cent. with no danger of a coal shortage for at least 300 years to come; on conservative estimates that is.

Only since the four-fold increase in oil prices in 1973 has the true value of coal to Britain's future energy needs been acknowledged. Before that dramatic moment oil had consistently undercut coal for many years. The British coal industry was thoroughly demoralised, and ageing mines were being run down, while the miners' ranks had dwindled from 750,000 to less than a third of that figure over the post-war period.

Crisis

The result of the oil crisis was a new deal for coal. The ten-year Plan for Coal designed to revitalise British mining was hurriedly devised without serious political challenge and is now well under way. It will cost more than £3bn., which is more than twice the first estimates. But there is little opposition to it. The coal industry is once again in an expansionist mood.

The mining force has been stabilised. New pits are being opened and old ones revived. The National Coal Board is making a successful effort at exploring Britain for new coalfields. It is the first such programme in more than half a century and already it has delineated two major coalfields as big as the best in Europe—Selby and Vale of Belvoir—and has identified many more deposits which may or may not be commercial propositions.

The NCB has already committed itself to more than half the capital projects needed to fulfil Plan for Coal with its expanded output from both deep-mining and opencast mining. By the mid-1980s it is reasonable to expect that total British coal production will be raised from 125m. tons to the order of 150m. tons.

The market for coal is certain to fluctuate during that expansion programme causing temporary surpluses. That need not be a serious handicap as long as the Government is prepared to look sympathetically—as at present—upon the NCB financing big coal stocks on the ground. Under the current system the NCB is prepared to put coal into power station stockyards without charging the power authority until the coal is used.

The NCB is not looking for big coal exports in the future to act as a buffer for temporary production surpluses. But it is very interested in developing new uses for coal and more widespread use by manufacturing industry of what is now a very competitively-priced fuel readily available anywhere in the country. To that end the board is a prime mover in an international effort to develop at a British research station the fluidised bed method of burning coal which—it is claimed—may revolutionise the use of coal in boilers.

Beyond the limited ten-year span of Plan for Coal the Government, the miners, and the NCB are now actively promoting what is being called Plan 2000. It is designed to give Britain a total coal output of 150m. tons of deep-mined coal plus 20m. tons of opencast coal by the end of the century. It will cost about £400m. a year (at present day prices) from 1985 to 2000. In short, the total contemplated spending on British coal mining to rejuvenate the industry, raise output, and replace many pits (more than half of them are now more than 80 years old) will be in the order of £10bn. without allowing very much for inflation between 1975 and 2000.

Typical

But the coal industry of 2000 will be a very different animal to that depicted by the typical middle-aged British coal mine of to-day. Selby and, probably, the Vale of Belvoir will be operating at productivity rates many times higher than anything that can be achieved at present. In short far fewer miners will be needed to dig more coal.

Supporters for an all-out dash towards an economy based upon nuclear power argue that the investment in the coal industry should be regarded as a temporary measure only. But the prospect of automated mining makes that a less than certain assumption. In the 1980s, when serious expansion in British power supplies must be decided upon, the choice will be between very big coal-fired power stations, some oil-fired stations, and new nuclear stations. The NCB is already convinced that it is going to be far, far cheaper to refurbish a great many existing coal-fired power stations than to build from scratch all the required new power capacity in nuclear form.

While the coal industry is expanding and making serious decisions now about its future role it is also conscious of the need for fuel economy.

Recently Mr. L. J. Mills, the NCB board member for mining, disclosed that total consumption by the coal industry of all forms on energy is equivalent to about 5m. tons of coal a year compared with the total production of approaching 125m. tons. The board is very conscious of the need to keep power usage down in order to maintain a good "energy in energy out" ratio. At present the NCB is striving to reduce the industry's energy consumption by 5 per cent. a year. The first result has been to actually exceed that target by a 6.2 per cent. improvement of electricity usage including a reduction of about 10 per cent. in coal consumption and more than 4 per cent. in use of liquid fuels. Those figures were partially offset by a 1 per cent. growth in electricity consumption as more mechanisation has been introduced in mining.

The coal industry looks to having further scope for energy saving. But its main role will be to exploit coal deposits as efficiently as possible in the future with the minimum amount of equipment and manpower. Mining in the past was often wasteful and haphazard in ness. Technology is now making it possible to work coal seams the last nugget. And in the century there is likely to be alluring prospect of working coal in seams up to 50 feet which have been proved to far out under the North Sea. How it can be done no one is sure. But the energy is there locked up and waiting for technology to provide the key.

Roy Hodson

ENERGY FOR INDUSTRY V

ELECTRICITY GENERATED

	Total	By steam plant Nuclear	By steam plant Other	Own use	Electricity supplied	Total electricity available
	TWh					
United Kingdom						
1973	258.80	23.66	229.89	18.43	240.37	244.76
1974	250.47	29.40	215.70	18.07	232.40	236.68
1975	251.26	26.52	219.69	18.02	233.24	237.26
Per cent. change	*+0.3*	*−9.8*	*+1.8*	*−0.3*	*+0.4*	*+0.2*
1975 Jan.-Oct.	200.75	21.23	175.40	14.57	186.18	189.37
1976 Jan.-Oct.p	201.39	26.05	171.34	15.24	186.15	189.12
Per cent. change	*+0.3*	*+22.7*	*−2.3*	*+4.6*	*−0.0*	*−0.1*
1975 Aug.	13.51	1.58	11.67	1.09	12.42	12.70
Sept.*	20.01	2.20	17.38	1.56	18.45	18.80
Oct.	19.20	2.11	16.58	1.40	17.80	18.11
Total	52.72	5.89	45.63	4.05	48.67	49.61
1976 Aug.	14.10	2.45	11.43	1.21	12.89	13.14
Sept.*	20.58	3.21	17.02	1.66	18.92	19.24
Oct.p	19.01	2.63	16.04	1.45	17.56	17.83
Total	53.69	8.39	44.49	4.32	49.37	50.21
Per cent. change	*+1.8*	*+42.4*	*−2.5*	*+6.7*	*+1.4*	*+1.2*

POWER

THE CENTRAL Policy Review Staff, the Cabinet's personal Think Tank, publishes very few of its reports, so the electrical industry should be pleased that its recent report* on the future of the U.K. power plant manufacturing industry was published last month. It sets out starkly just how serious is the threat of a major British industry, needed both for domestic requirements and for its generous contribution to the balance of payments, wasting away through the failure of Government and its principal domestic customer to understand its problems.

The Think Tank concluded that the industry was "under grave threat," and that unless help came swiftly it would "undergo a severe contraction," with the loss of 30,000 jobs over the next two or three years. As a result the export potential of the £200m.-a-year turbo-generator side of the industry would be severely impaired. The boilermakers (another £200m.-a-year) would probably be unable to fulfil even domestic requirements, and all future nuclear plants would have to be imported.

The industry, as defined by the Think Tank, comprises four main suppliers—GEC Turbine Generators and C. A. Parsons for turbo-generators, and Babcock and Wilcox Power and Process Engineering Group and Clarke Chapman Power Engineering Group for boilers. All four form parts of major companies, amounting to less than 10 per cent. of turnover in the case of GEC to about 40 per cent. for Parsons. The industry is heavily concentrated in the North-East and Strathclyde.

Central to the industry's immediate problems is the very low growth in U.K. electricity demand. Where only three years ago the Central Electricity Generating Board was predicting that so large and sustained were the forecasts for growth that it would have no option but to order a foreign design of power plant that could be built quickly in Britain, the outlook to-day is totally different. Capacity already installed or under construction suggests a 35 per cent. surplus by 1980—beyond the 20 per cent. margin for contingencies. The industry has received no new domestic power station order since 1973 and none is likely before 1978-79. Such a gap, for projects normally scheduled to be completed in five or six years, must imply a desperate shortage of work at all of the earlier stages of construction, unless export contracts are redressing the balance.

Potential

In fact, they are not. Many of the potential overseas markets are experiencing the same surplus of generating capacity as Britain. The major international suppliers such as Brown Boveri, Kraftwerk Union, Creusot-Loire and the Japanese groups are competing fiercely for what business there is. What is more, as the CPRS report states clearly, the British industry simply is not set up to compete advantageously for the kind of contract overseas customers are coming to favour, namely the "turnkey" contract, mainly for a nuclear power station, and increasingly in the future for dual-purpose nuclear and desalination plants.

The Think Tank proposed a number of measures—some short-term and some longer term—that could help to alleviate the industry's agonies, and from which the Government could choose. One in particular has been seized upon enthusiastically as a quick-acting palliative involving little risk. This is a repeat of the 500MW coal-fired station at Drax, with the major plant contracts going to Parsons and Clarke-Chapman. It would bring work quickly to some of the more hardpressed sectors of the industry and moreover would help to pacify the mineworkers, once more showing signs of restlessness.

But a decision in favour of Drax B would do nothing in the longer-term interests of the power plant industry, which are basically concerned with creating an industry capable of taking nuclear plant competitively and of managing turnkey nuclear projects successfully—something Britain has not done well since the early days of nuclear construction. Drax B's technology is of no interest overseas and is unlikely to be of further interest even in Britain. It would not raise Britain's coalburn, for the nation is already dangerously dependent upon coal—about 80 per cent.—for electricity supplies and its commissioning would encourage the CEGB to retire older plants prematurely. Moreover, it could well give Parsons the desperately sought reprieve from a merger with GEC's turbo-generator interests, seen by the Think Tank as a necessary part of restructuring the industry for the future.

If Government and industry are seriously thinking about building an industry for the future, and not just with political expediency—always a great temptation for governments—Drax B is a distraction that must firmly be put on one side. Government's mission must be to help build an industry no longer in thrall to the CEGB, capable of competing overseas for turnkey contracts. Even a steady ordering programme for new power plants at home, if accepted by Government and the electricity industry—itself a big "if"—cannot be on a scale sufficient to build a strong industry.

Accessible

The Think Tank spells out what and where the overseas market accessible to Britain lies. It also points out bluntly that this market is predominantly nuclear, and moreover for types of reactor—light water reactors—which Britain has no licence to build at home. Any attempt to foist upon this market British designs of reactors seems doomed to be a disastrous failure.

Put at its simplest, the choice for Government appears to lie between abandoning the power plant manufacturing industry and re-aligning it to meet the requirements of its main market prospects. The Think Tank strongly advised against abandoning the industry, both because it foresees a big domestic demand for new generating capacity again in the 1980s, and because it is precisely the kind of high-skilled, high-added-value engineering the Government says Britain should be engaged in, with a good record already in overseas earnings.

The alternative to abandoning the industry altogether is for the Government to face up to a series of politically highly charged nuclear decisions. Stated briefly, these are:

- to license an LWR design and start building one in Britain (although major parts such as the pressure vessel would have to be imported);
- to examine the export potential from the standpoint of any "nuclear blacklist" and determine whether the accessible market remained substantial;
- to find ways of setting up and supporting a turnkey contract with *all* the resources—including Government-backed guarantees—required to compete successfully overseas;
- to accept unequivocally that nuclear fuel services—especially oxide fuel reprocessing—are Britain's strongest card in any attempt to break into the international nuclear market, and start to give them the support they deserve;
- to accept that the British electricity industry must in future take second place—as the British Army already does—to the requirements of certain rich overseas markets, notably in the Middle East.

If the Government falters at one of these hurdles, the outlook for the power plant manufacturing industry in Britain is bleak indeed.

**The future of the U.K. power plant manufacturing industry. Report by the Central Policy Review Staff. HMSO £2.50.*

David Fishlock

GAS

THE BRITISH Gas Corporation has started to negotiate new contracts for industrial and commercial supplies, a sign that the gas industry is about to embark on the next stage of its development.

After nearly three years of low key expansion the gas industry is making a determined foray into the U.K. fuel markets on the strength of assured new supplies from the Anglo/Norwegian Frigg Field and Shell/Esso's Brent Field in the U.K. sector of the North Sea.

Thanks to the good weather last summer the operators of the Frigg Field were able to speed up development work (originally delayed by various problems) and it now looks likely that supplies should start flowing in October. When output reaches its peak of about 1.5bn. cubic feet a day it will be increasing the British gas industry's supplies by nearly a third on recent levels. With the gas from the Brent Field also due on stream in the next couple of years British Gas will be able to take its total sales from their present annual level of 13.5bn. therms to about 18bn. therms in 1980.

On this basis it is possible to see the gas industry contributing about £4bn. to the improvement of the balance of payments in 1980 (about double last year's contribution). The calculation is based on the fact that home-produced natural gas replaces expensive imported oil.

According to the Corporation's submission to last summer's U.K. Energy Conference, gas should be supplying about one-third of total energy requirements on a heat supplied basis in the early 1980s. And the industry has constantly proclaimed the battle cry (in the face of electricity and coal industry competition) that gas supplies will *not* suddenly peter out, as forecast by some doomsters.

Reserves so far discovered and expected to be found in the next few years should last into the next century, provided that they are extracted at a contsant rate after 1980. Research inside and outside of the industry has shown that there is likely to be sufficient gas supplies to meet limited export requirements in the 1980s and 1990s.

The gas supply situation will undoubtedly be helped by the construction of a pipeline network in the North Sea. Such a system, currently being evaluated, could cost over £2bn. which is one reason why private industry is being invited to join British Gas and the British National Oil Corporation in the venture.

On the other hand, an 800-mile pipeline as envisaged, could deliver 1bn. to 1.5bn. cubic feet a day of natural gas as well as 6m. to 9m. tonnes annually of heavy gases suitable for the petrochemical industry. What is important is that this gas could be collected from fields which individually have comparatively small gas reservoirs. Without a gathering system this gas might well be wasted—reinjected into the field or, worse still, flared into the atmosphere.

These, then, are the supply prospects: major new gas fields coming on stream; fields still to be declared commercial (such as the promising gas find in the Irish Sea); the gathering system and the prospect of substitute natural gas, using gasification processes in which Britain leads the world. They add up to security of supply for the next two decades at least, an important factor for companies planning industrial developments.

Target

In spite of the relatively low growth rate for gas sales to industry in the past couple of years, the Corporation has still faired better than the "target" set out in the 1967 White Paper on Fuel Policy. In 1966—just three years after the discovery by British Petroleum of the West Sole Field — the gas industry sold 935m. therms to industrial customers and 574m. therms to commercial users.

The White Paper boldly predicted 1975 sales of 3.8bn. therms to industry and 1bn. therms to the commercial sector. In fact, the gas industry achieves sales of 5.3bn. and 1.3bn. therms respectively. (As gas is regarded as a premium fuel the amount used in power stations—858m. therms in 1975—has been wisely kept well below the White Paper's forecasted figure. Consequently, and almost miraculously in view of the vagaries of energy forecasting, the Corporation recorded overall sales of 13.22bn. therms in 1975, almost exactly in line with the original White Paper forecast of 13.3bn. therms.)

Now that British Gas has embarked on a new "sales drive," the industrial and commercial sectors are expected to buy another large share of the new gas. Mr. James Buckley, who recently retired as the Corporation's Member for Marketing, said at a recent fuel seminar in London that it was unlikely that the domestic sector would absorb much more than 40 per cent. of the increased availability.

Although as much as possible would be sold for premium, firm contract users, a proportion would need to be allocated on an interruptible basis in order to preserve the supply/demand balance.

This raises the thorny question about how much industrial and commercial customers will have to pay. In recent years gas contract price increases have lagged appreciably behind those of oil and coal.

It is a point taken up by Dr. Dickson Mabon, Minister of State for Energy, writing in the winter edition of British Gas Review. Gas, he says, remains, "a highly competitive, economical and efficient fuel. . . . Indeed, there have been complaints from some quarters that gas is too cheap though not, of course, from many gas consumers."

The complaints have come mainly from the coal and electricity generating industries which (largely from self-interest) claimed that gas was being sold too cheaply and that reserves were being depleted too quickly in view of an impending energy gap. They called for a tax on gas to "help" the situation.

Pressure

So far the Government has resisted the pressure for a gas tax although in the last Budget it did instruct the Corporation to raise prices to reduce public borrowing liabilities. This increase, probably in April, will hit tariff rather than contract customers, however.

Not that contract customers are being let off lightly. Industrial users of gas, negotiating new contracts, are facing—in some cases—increases of over 100 per cent. on their previous contracts. These increases are reflected in the latest Department of Energy statistics which show that in the past two years the price of gas delivered to large industrial consumers has risen on average by no less than 124.7 per cent. The provisional average price for the third quarter of 1976 was 6.8p per therm. Over the same period, the average price of coal had risen by 85.7 per cent.; heavy fuel oil had gone up 31.4 per cent.; gas oil prices had risen by a modest 18.9 per cent.; and electricity prices had gone up by 57.7 per cent.

At present there is no reason to doubt the gas industry's assertion that its prices will remain competitive; newly-knighted Sir Denis Rooke, chairman of British Gas, has said that, barring Government interference, future price increases would be kept below the general rate of inflation.

On the other hand, gas will never again be cheap. It is unlikely that gas prices will substantially fall out of line with the cost of other fuels—as they have done on occasions in the past. The development of fields like Frigg and Brent will see to that. For whereas oil companies producing gas from fields in the Southern Basin of the North Sea are getting around 2p a therm for their supplies (much to their chagrin) the operators of the Frigg Field have secured a price—at current values—three to four times that amount. What is more, built in escalation clauses are linked to the rising price of other fuels.

In progressing to its new stage of development, the gas industry has ventured into more remote exploration areas, into deeper more hostile waters, for fresh supplies. The higher prices reflect the risks and the costs involved; they also underline the need for this particularly efficient and controllable fuel to be burned in premium markets wherever possible.

Ray Dafter

ENERGY FOR INDUSTRY VI

On this page and opposite we look at the need of some of the main energy using industries and describe the measures they are taking in facing up to higher prices.

The big consumers

STEEL

BRITAIN'S steel industry had little need of the Government's Save It campaign to encourage it to redouble its efforts at energy saving. This has been one of the most significant areas in which steelmakers have been able to improve productivity and reduce manufacturing costs during the last decade.

The conversion of iron ore into steel and the further processing of steel into forms necessary for modern manufacturing is an energy-hungry process whatever method or fuels are employed. No less than 9 per cent. of Britain's energy consumption by final users is by the British Steel Corporation and by the many private sector steelmakers.

The bulk of the energy is in the form of coking coal used in the blast furnaces for the conversion of iron ore. But much oil fuel is also used while, in both BSC and the private sector, electric steel furnaces take huge quantities of power. A big bank of such furnaces can have the power demands of a city when melting is going on.

Steelmaking is also power-hungry in the later stages because many processes require the same piece of steel to be re-heated several times during the production cycle. Finally, the rolling mills themselves and all ancillary equipment represent a big electricity load.

For BSC the energy usage breakdown is 68 per cent. coal, 22 per cent. oil, 5 per cent. natural gas and 5 per cent. electricity.

The British steel industry often finds it convenient to measure changes since Vesting Day 1967 when the biggest companies were nationalised to become British Steel. In the 10 years since the British steel industry as a whole (public and private sectors) had cut down its energy requirements to make each ton of steel by 13 per cent. But that is only part of the story. The accompanying graph *shows how steeply the energy* requirements per ton of steel were being reduced even from the early 1960s onwards.

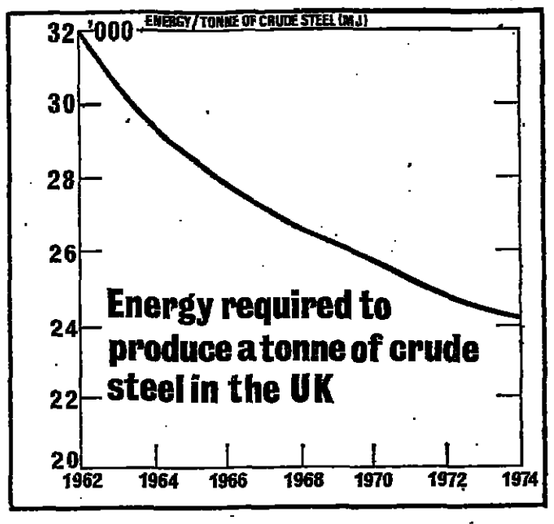
Two principal energy-saving changes in steelmaking during the last 17 years have combined to produce that falling curve.

In the pre-war and early post-war years British steelmakers tended to use large quantities of home-produced ores of low grade mined from the Jurassic Escarpment running down through England from Flamborough Head to Portland Bill. Home ore is about 25 per cent. iron. With the growing exploitation of world ores and the introduction of large bulk carriers, however, the British industry took a policy decision to switch most steelmaking to foreign ores. The ores now imported have an iron content of approximately 60 per cent. Thus in a typical blast furnace more than twice as much iron for a given quantity of coal can be produced from a foreign ore than from a home ore.

The second big development has been in basic blast furnace technology. Each new furnace constructed is noticeably bigger and more productive than its older sisters.

An obvious way of getting more out of blast furnaces is to build bigger ones which give better returns because of the economies of scale. The BSC's *latest furnace in operation* at Llanwern makes 5,000 tons of iron a day—a monster compared with the outputs of 1,000 or 2,000 tons a day of some older furnaces. But even the Llanwern furnace is of modest proportions compared with the biggest in the world. British Steel has ordered a 10,000 tons-a-day furnace for Teesside and a second of the same pattern is expected to be provided at Port Talbot, South Wales.

While blast furnaces have been going up in size other technological advances have helped to make them more productive. Oil injection is a modern technique which saves a great deal of coal in return for a comparatively modest *energy input in oil.* Another trick has been to raise the top pressure in the furnace—rather as a housewife saves energy by using a pressure cooker.



Developments

One of the best ways of getting more out of the blast furnace, however, is to make use of modern materials to build stronger furnaces which can withstand higher temperatures. It is estimated that for every 5 degrees Centigrade the blast furnace temperature is raised a kilogramme of coke can be saved for every ton of iron produced. Modern blast furnaces now run at nearly 1,000 degrees C compared with only 500 degrees C some 25 years ago. Designs now envisaged will run at up to 1,200 degrees C.

While by far the biggest total energy savings in the steel industry have been coming from new blast furnace techniques, the newer steel furnace systems are also contributing significantly to total savings. The main swing has been from open hearth furnaces for converting iron into steel to basic oxygen furnaces. Whereas open hearth furnaces have a production cycle of several hours at high temperatures, a charge can be converted into steel in a basic oxygen vessel in about a tenth of the time.

One of the most important ways of economising in the use of energy in steelmaking is to run steel plant hard and continuously. When the industry experiences periods of recession — as at present — it automatically becomes up to 10 per cent. less efficient in its use of energy. That is because so many energy "overheads" cannot be cut back to match decreased steel production. For *example, a mill needs ovens to* heat up steel for rolling whether it is rolling at 60 per cent. or 100 per cent. of its capacity.

Electricity consumption will continue to increase in steelmaking because of the investment in electric arc furnaces, particularly by the private sector companies.

The most efficient use of electric power in that heavy form for steelmaking depends upon close co-operation with the electricity authorities to use low-cost electricity generation capacity to best advantage. As Britain is likely to have a surplus of power generation plant for some years to come the steelmakers have opportunities to work out advantageous power supply arrangements.

If all the energy that goes into steelworks or is produced within them could be used then steel could be a lot cheaper than it is to-day. Already the re-cycling of energy *is an important factor in steel* plant design and it is likely to be given even more attention in the future. Low-grade waste heat is likely to be used *increasingly outside the actual* works for such projects as district heating. Already an experiment is going on at the BSC Ebbw Vale works using waste heat to warm greenhouses.

Roy Hodson

CHEMICALS

FOR THE chemical industry the problem of making more efficient use of energy is not one which suddenly cropped up with the dramatic quadrupling *of oil prices in 1973.* As one of the biggest industrial users of energy—both as a raw material and power source—the chemical industry for a much longer period has been seeking to keep down costs, and with a substantial record of success.

The U.K. chemical industry accounts for around 14 per cent. of *all energy used by industry* as a source of power and heat, and although the industry has enjoyed a faster growth rate than the rest of manufacturing *industry over the past decade,* this proportion has remained unchanged. Conservation measures have been responsible for this, enabling the industry to achieve a remarkable 40 per cent. reduction in energy per unit of output between 1965 and 1975.

The industry has furthermore learnt to become a highly efficient generator of its own industry to supplement the purchases made from the supply authorities. Chemical producers in the U.K. make 30 per cent. of their own power at very high rates of efficiency, through the use of combined heat and power systems—a significant contribution when set out against the £500m. bill the industry paid the electricity generating industry for its public supply in 1975.

Conservation

But although the industry's record in energy conservation has been good, the past few years have seen a big increase in effort as a result of the changed economic situation in which industry as a whole now finds itself. While the energy and raw material components in the cost of chemical products was important before 1973—representing about 20 per cent. of the price required to yield an adequate return on investment—the equivalent is now around 40 per cent.

Thus it has become much more difficult—even if economic conditions would allow it—for chemical companies to seek higher volumes through reducing prices as in the past. At the same time the industry is finding that technical and other limitations now make it impossible to go on building larger and larger plants to achieve economies of scale. The huge amounts of capital required mean that the risks involved in a shutdown of these very large units are now substantial. At the same time the industry has been experiencing a prolonged period of difficulty in increasing its prices to the levels it considers necessary for further expansion, because of the recession.

In consequence further cost savings, including in particular reductions in energy usage, have become a vital priority. The chemical industry in the EEC as a whole was responsible for 79.5m. tonnes coal equivalent of energy consumption in 1974, or roughly 17.5 per cent. *of the 460m. t.c.e. consumed* by EEC industry. The question it now faces, however, is whether it will be able to continue making savings over the *next 10 years at the same pace* as in the past.

For although the problem has become much more serious over recent years, the amount of *effort that has already gone into* energy-saving over the past 10-15 years is thought likely to limit the advances that remain to be made. Over the decade up *to 1974* energy consumption in the U.K. chemical industry increased by 3 per cent. per annum against an average growth rate of 6 per cent. in output. In 1974 in the immediate aftermath of the oil price rise, output increased by 5.4 per cent. and consumption was reduced by 4.1 per cent., but by 1975 the fall in energy consumption of 7.7 per cent. was less than the reduction in output of 9.5 per cent. because of the difficulty of achieving savings at a time when plants were running well below capacity.

Because of the growing difficulty of achieving further savings, the Chemical Industries Association estimates energy consumption will increase at 1 per cent. below output growth — 5.3 per cent. against 6.3 per cent. up to 1980 — and then at 0.5 per cent. below output growth for the next five years. Over the period 1975-1985 the increase in output is envisaged at 84 per cent. and in energy consumption at 71 per cent. The projection over the 15 year period from 1970-1985, which takes in the period of major saving at the start of the 1970s, is nevertheless impressive. According to figures prepared by CEFIC, the European confederation of chemical industry groupings, production in Germany is expected to increase by 75 per cent. against an energy consumption rise of 38 per cent. during this period. In the U.K. the comparable figures are 113 per cent. rise in output and 67 per cent. in energy demand, and in the Netherlands a 94 per cent. rise in production and a 34 per cent. rise in consumption.

The further more limited reductions in energy usage per unit of output over the next few years will come in part from good housekeeping measures aimed at ensuring energy is not wasted, and probably to a lesser extent from improved plant design. Dramatic savings from entirely new, less energy intensive, products and processes are thought to be some way off, however.

Efficiency

But while the industry will be doing its best to ensure that it makes the most efficient use of energy, the terms and conditions under which it receives its supplies and the effect this has on its competitive position will continue to feature strongly in talks with government. The industry believes that industrial tariffs in Britain are not too badly out of line with those in other EEC countries. The terms available to large bulk users are thought however to be distinctly more favourable on the Continent *than in Britain.*

Chemical producers are also concerned at the variety of political influences that are brought to bear on energy *prices, such as the recent suggestion* from the Central Policy Review Staff that electricity prices should be raised by 1.25 per cent. per annum compound *to provide finance for new generating* equipment to help the power plant industry.

The chemical industry is also anxious to secure more favour*able* treatment from the electricity authorities for self-generation. In some competitor countries—but not in the U.K. —the public grid can be used *to transfer privately generated* power from one industrial site to another. The Central Electricity Generating Board also offers, according to the *chemical producers,* very unattractive terms for sales of surplus private power to the grid and self-generators have basic capital and operating cost *disadvantages compared with* the public supply authorities.

Rhys David

TEXTILES

UNLIKE some other industries such as chemicals which use very large quantities of energy, textiles is a relatively small consumer, with wages and raw materials more important elements in the total cost structure. Yet although textiles has to this extent been somewhat more fortunate than other *more energy-intensive industries,* the past few years have nevertheless highlighted a number of areas where the industry has, like every other sector in the past, been prodigal in its use of fuel.

The industry has, as a result, had to look closely at those processes where excessive amounts of energy have been used in the past and two main areas—dyeing and drying—have been identified as offering possible savings. Some of the most important work so far has *been done by the Wool Industry* Research Association at Leeds, and the Shirley Institute, at Manchester, organisations originally set up to serve individual sectors of the industry and now operating loosely within the framework of the Textile Research Council across a broader field.

Changes

Within the textile industry goods are usually washed or wet-processed several times *during manufacture* but the relative cheapness of energy in the past has meant that in some sectors of the trade, such as wool textiles, not enough attention has been paid to ensuring that drying machines operate at maximum efficiency.

A major defect in drying practice, according to WIRA, is the tendency in the textile industry towards over-drying. Producers are generally seeking to avoid damage from mildew as a result of dampness but, as a result of over-drying to compensate for this, not only is energy wasted but output from drying machines is reduced. Woollen cloths are often dried to 5 per cent. moisture content and subsequently damped back to 15 per cent. for subsequent processing, so that the energy required to achieve the final part of the drying will have been wasted.

Other examples of inefficiency in current practice in many mills include failure to achieve the maximum degree of elimination of water from fabric before drying through mechanical means such as mangling, again leading to wasteful use of energy. The exact cost to the industry cannot be gauged, according to WIRA, but it points out that only a 1 per cent. saving of fuel for each drying operation would save the industry about £250,000 in a year.

WIRA itself has been trying to help companies overcome the problem of inefficient drying through a survey scheme which *has been operating for much of* the past year. For a nominal fee of £100 the organisation is prepared to examine drying equipment in factories and prepare a report identifying features open to improvement, and to detail costs of implementation and potential benefits. Companies taking part in projects also receive a summary giving inter-firm comparisons (without revealing the identity of competitors) so that subscribers can assess their owa energy efficiency against that of comparable concerns.

As a result of the survey WIRA is hoping further control instruments designed to tailor heat output to the drying requirements of the goods being processed can be developed. One important instrument already developed is a monitor for a stenter which WIRA claims can *cut energy usage by up to 20* per cent. The monitor, which can be automated, measures temperatures inside the dryer at two points, enabling the operator to adjust the speed of the machine to ensure the correct amount of drying is given. Other equipment is also being developed to ensure more accurate monitoring of moisture content in cloth from dryers.

Another energy-saving possibility within the drying operation is the use of the hot air discharged from the machine for other heating purposes. In most cases this is simply exhausted, representing an energy loss in the order of 30 per cent. The waste if passed through heat exchangers could possibly be used to meet some low level heat requirements such as heating up water in dye baths, the other main area where the industry is seeking to make energy savings.

The water used in dyeing has to be heated, as does a large amount of water subsequently used for cleansing. In less energy-conscious times the industry allowed both the heat and the water to run to waste, but efforts are being made to ensure both are saved for re-use. The use of heat exchangers makes it possible for at least some of the heat currently wasted to be used for warming up further quantities of water. Similarly, water near the end of the cleansing stage in dyeing and finishing is likely to be fairly clear, and could possibly be used in other applications where water would otherwise have to be heated from cold.

Much of the work in dyeing and finishing has been done by the Shirley Institute, which has concentrated its efforts on ways of saving water and hence the energy required to heat it up. The institute's work has involved evaluation of processes in mills to gauge exactly how much water is required and preparation of guidance on heat recovery systems and on the potential benefits to be gained.

The Institute has also staged a series of demonstrations for the industry illustrating common examples of excessive energy usage. One finding has been that energy consumption can increase several times as a result of excessive boiling of dye liquor, a common fault in many mills. Efforts are now being made to educate the industry to avoid over-zealous boiling.

In most other areas of textile processing the opportunities for achieving savings are limited, as energy is being used primarily for motive power. In some cases increased mechanisation, as in other industries, is *likely to lead to increased use* of energy, but this simply makes it more important that the industry should save energy where it can.

The problem so far as the textile industry is concerned is finding the resources to invest in energy-saving equipment, for although the cost may be recovered in a matter of years, the economic pressure on the industry over recent years has been such as to make even spending of this nature a *luxury. The prospect remains* however, of further increases in the cost of energy, adding further urgency to the need for savings.

Rhys David

PAPER

THE PAPER-MAKING industry is one of the heaviest users of energy because of the drying requirements alongside the mechanical power required to drive large mills.

The weight of water which must be evaporated during the paper-making process is equal to the final weight of paper produced, and the total cost of energy represents between 10 and 15 per cent. of the final cost of production.

Nearly 60 per cent. of the energy consumed by the industry is generated by privately owned plant, with the balance made up from the national grid. The total fuel and electricity consumed by the industry is just over £135m. a year at 1975 prices.

The advantage of self-generation has been appreciated for many years in an industry which uses both heat and electricity, because of the substantial improvement in overall efficiency which becomes possible. The conversion of heat into electricity by coal, oil or gas burning is seldom more than about 30 per cent. efficient and may with small plant have a much lower efficiency. If, however, the "waste" heat coming from the low pressure end of the turbine can be used for direct drying and space heating efficiencies of up to 75 per cent. can be achieved. The *fourfold* increase in primary fuel costs over the past few years has led to a widespread reappraisal of the need to increase overall thermal efficiencies.

In many plants energy-saving schemes which were not economic in the era of relatively cheap fuels have now become worth while, if not essential. Even at high rates of interest, capital employed in reducing heat losses or re-using "waste" heat may now show a good return. Even more important, improvements in overall efficiency and "good husbandry" may prove of the greatest importance if energy costs should make another unpredicted jump.

Significant savings can be made by close attention to detail in a number of areas.

Overall efficiency of three-phase motors used to drive machines depends on having the rated output of the motor closely matched to the load it will be given. In the past when new plant was designed or when replacement motors were installed, companies often preferred to standardise on one motor for a variety of uses. This

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ENERGY FOR INDUSTRY VII

MOTORS

ENTHUSIASTS FOR all kinds of tried and untried motor power plant systems have had a field day as the price of fuel has rocketed over the last two years. Eccentrics have emerged to show how cars can be run on the gas from a boot full of pig manure; inventors have displayed new engines capable of running on watered-down fuel; the 100-year-old Stirling engine concept has had a comeback, and the electric vehicle lobby has had a big boost.

The motor industry's reaction to this surge of interest has shown how big the gap is between ideas and practical application. The only power system which has made a tangible advance since the beginning of the oil crisis is the diesel engine, using a technology which is virtually as old as the petrol power unit.

This slowness in taking up new drive systems has exposed the industry to vigorous fire from its critics for not making a more radical adjustment to the problem of rising energy prices and dwindling oil resources. But the way in which the diesel engine has progressed recently indicates the nature of the problem facing vehicle manufacturers. Unlike most of the alternatives, diesel offers a well-tried technology, with well-established risks, plus the backing of considerable existing resources.

Research

This is not to say that the motor manufacturers are not looking at rival sources of power. Volkswagen, for example, and other German companies, are now involved in a £750,000 research project on the use of methanol as an alternative fuel. Similarly, Ford has taken up serious work once again on the Stirling engine—an external combustion unit which is still costly to produce—and several manufacturers are looking at electrical power systems.

But all of these development programmes are going on under the shadow of two major constraints: the problem of making the new systems sufficiently economically to rival present engines, and the heavy vested interest of the industry in utilising the financial commitment it has already made in the engine lines. The investment issue is a more serious matter than many critics assume, since engine lines are usually laid down for 20 to 25 years. No company can afford to write off that amount of capital. It is the reason why many of the new diesel engine manufacturing lines now being installed for cars have an in-built flexibility to be turned back to petrol engine manufacturing if necessary.

The other strong point in favour of the petrol engine is the belief that it is capable of much more economical use of fuel than is presently the case. Indeed, most of the initial effort to combat fuel price increases has gone into improving the economy of the present-day range of engines, mainly with the use of better carburation devices.

Ford U.K., for example, has developed a new device called the sonic-idler carburettor which uses shock waves to vaporise fuel more effectively and thus produce better combustion with less fuel. Similarly BMW, which was synonymous with performance cars up to three years ago, has modified its image and deliberately placed a lower performance economy vehicle in its range; and several car companies have launched cheaper versions of their most popular models which have been de-tuned for the motorist who prefers saving petrol over lively driving.

Another development in this line of thinking is the renewed interest in turbocharged engines. Turbocharging works by driving an air compression unit off the exhaust system which is capable of pushing more oxygen into the petrol mixture and therefore producing better fuel combustion. Used widely in the commercial vehicle industry, it has been largely ignored by the car manufacturers, but it now seems likely that some car manufacturers—among them Saab—will have a turbocharged car by the end of the year.

At the same time, new materials are creeping into engine and vehicle production. The object of this move is to make lighter vehicles all round, so that the engine has less weight to pull and therefore uses less energy. Aluminium engines and blocks are one example of this trend: used very sparingly only 10 years ago, aluminium has been adopted for the new range of power units made at the joint Renault, Peugeot, Volvo plant at Douvrin, and will be used to a greater extent than previously in the new British Leyland engines.

Light plastic compounds of various forms are also finding greater use in the industry for both external and internal fitments—plastic bumpers, for example, and spun fibre steering wheels, which are softer, lighter and less dangerous than the conventional products, are gaining wide acceptability today.

This continual search for weight reduction, however, has probably had its most dramatic impact on the U.S. car industry, which saw last year the first reversal of the trend towards lower, sleeker and longer vehicles since the war. General Motors' "downsizing" project, as it is called, has been deliberately aimed at taking weight out of the vehicle by getting rid of redundant metal—roughly 1,000lbs was dropped from its biggest vehicles last year along with a 1 foot reduction in length.

The fact that Ford is now following General Motors' lead in the U.S. is evidence of a deep change of attitude in America. The U.S. motor industry is now having to respond to Federal Government regulations on fuel consumption which, according to a complex formula, will require manufacturers to make a vehicle fleet every year in which the average fuel consumption of all the cars made will be not less than 20 mpg. This target has to be reached by 1980, and within the following five years the authorities are demanding that fuel consumption is improved to 27 mpg.

Even allowing for the fact that these extremely severe regulations—GM's fleet currently manages less than 15 mpg—may be tempered down, it is clear that the manufacturers will have to move towards more European-sized vehicles, lighter materials, and lighter construction methods. Within the next decade or two, engineers expect, for instance, to see much wider use of electronics in vhicles, so that heavy mechanical units—for processes like gear changing—will be abandoned in place of electronic instructions.

Impact

While these developments have been going on in the car industry, the conservation drive has made less obvious impact on commercial vehicle production. The indications are, however, that commercial vehicle manufacturers will move in two main directions over the next few years, gradually producing proportionately more heavy vehicles for the haulage industry, and introducing more diesel engines lower down the weight ranges.

The argument for heavier vehicles is that they use fuel resources more efficiently in terms of tons carried per mile: and at lower weights manufacturers are now anxious to get the advantage of diesel's better economy even at the expense of the greater price of the engine. Within the last two years there has been a rapid increase in the use of diesel in vehicles of lss than six tons, where petrol engines have traditionally held about a 60 per cent. share in the U.K., and an even larger one in the U.S. The expansion of light diesel engine building capacity in recent times—at Perkins and Fiat, for example—indicates the rapid growth in this sector.

Diesel engine units are now spreading over into cars, and it is likely that by the end of this year virtually every European manufacturer will have a small diesel engine project off the ground. They are already being produced by Mercedes, Opel, Peugeot, Chrysler (in Spain), and Volkswagen; and several more manufacturers, including Fiat, Ford and British Leyland are evaluating engines.

Whether these moves can do much more than restrain the upward movement of energy used by the motor vehicle industry is doubtful. Last year in the U.K. petrol consumption moved up marginally again after a pause in 1975, and private motoring now accounts for more than half of all the energy used in the vehicle industry. With predictions of a continuing—if slow—expansion in the number of cars on the road in Europe, there needs to be a radical breakthrough in technology if this growth is to be reduced.

Terry Dodsworth
Motor Industry Correspondent

FOOD and DRINK

FOOD manufacturing industry is the second or third largest industry in the U.K. in terms of gross output but it is much further down the list in terms of energy usage. The food, drink and tobacco industries in 1974 together accounted for about only 12 per cent. of the total energy consumed by industrial users in Britain and a mere 3.5 per cent. of total consumption.

But the food and drink manufacturers are tackling the subject of energy conservation with considerable zeal because it is one area in these days of steep inflation where they can actually reduce costs.

The Food Manufacturers Federation, for example, has an "energy committee," formed in 1975 with the prime objective of promoting the efficient use of all forms of energy among its members. It also follows closely developments in energy policy strategy in the EEC and programmes for research and development.

The committee has sent out six bulletins so far, aiming at a bulletin a month. The subjects covered up to date include a general discussion paper on energy conservation, one on water conservation, another on fuel oil additives, one about the Government White Paper on energy conservation (what a company could get in the way of assistance, according to the Paper), and others on electricity and gas. To come are bulletins on coal (not a fuel particularly liked in the food industry), the insulation of buildings and equipment, space heating, solar energy and wind power, compressed air, lighting and the calculation of boiler efficiency.

The aim has been to show companies how simple "good housekeeping" can pay off in terms of energy savings. The larger companies in particular will also be encouraged to see if it might be worthwhile changing the processes they are currently using as a way to cut energy costs.

A fascinating insight in to what simple "good housekeeping" can achieve was outlined by Mr. F. Pender, managing director of Provincial Merchants, at a recent seminar. He said that in 1976 Associated British Foods, of which his company is a part, saved £500,000 as a direct result of the electricity surveys it had undertaken. He put this in perspective by mentioning that ABF's annual electricity bill is about £9m. and that some reduction in maintenance costs was included in the saving of the £500,000 a year.

Among the examples quoted by Mr. Pender was a saving of £100,000 a year at ABF's flour mills, which are major electricity users. Electricity accounts for the larger mills amount to £250,000 each a year and the total for the 21 mills owned by the group in the U.K. is £1.5m. "Correct selection of tariffs, reduction of transformer losses and some housekeeping changes have saved £100,000 a year in this area," Mr. Pender reported.

He also pointed out that the pattern of electricity demand changes constantly and so do the electricity Boards' tariffs. In many cases ABF found it possible to select a cheaper tariff—"maximum demand" instead of "block," "annual" rather than "monthly," separate metering of night units and so on.

It is frequently possible to reduce maximum demand and so reduce cost on a "maximum demand" tariff and one example in the ABF experience was with a bakery where it was found that the arrival of a flour tanker coincided with bakery peak demand. The tanker coupled its pump to the bakery electricity supply and immediately contributed to a higher maximum demand. By scheduling the tanker to arrive 30 minutes later the group save £400 a year.

Like the FMF, the Institute of Brewing and the Allied Brewery Traders Association, have been examining the problems of the higher cost of energy. But their report is not due to be published for another couple of months.

Indications

In the meantime we can get an accurate indication of the energy consumption at a typical brewery from a paper presented at the Institute by Mr. Mat. Barlow, director of engineering services at Allied Breweries (U.K.). He said that electricity accounts for 13.5 per cent., heavy fuel oil for 35.5 per cent., natural gas for 30 per cent. and coal for 21 per cent. The average energy consumption in a brewery can also be split up among the different sections as follows: 44.1 per cent. in brewing and fermentation, 20.1 per cent. in draught and canister packing, 16.9 per cent. in bottling and canning, 9.8 per cent. in chilling and conditioning and 9.1 per cent. in other uses.

Mr. Barlow made the point that the installation of total energy schemes in breweries in an attempt to control wastage had not been advocated in the past on economic grounds and also because energy needs are not easy to predict, making it difficult to obtain the correct balance. However, such schemes may become more attractive in the future, he said.

To see in more detail what might be achieved you need look no further than the Park Royal brewery of Arthur Guinness. More than £2,000 a week in steam costs is being saved through the installation of new inverted bucket steam traps on major steam users like coppers, scald heater and grains dryer.

Mr. Derek Morris, mechanical maintenance engineering at Guinness, says that a study of steam utilisation efficiency had shown the existing steam traps were worn out or inefficient. About 50 new traps have been installed so far. The first 16 fitted on major steam users cost £1,000 to buy and another £2,000 to instal.

On the broad front, once again, Bass Charrington, the biggest beer producer in the U.K., appointed an energy economist just after the energy crisis to vet and make suggestions on the group's use of steam, electricity, compressed air, water, CO_2, as well as effluent disposal—all seen as part of the total energy problem.

But as Allied's Mr. Barlow pointed out: "Any long-term fuel policies for industry as a whole will be made at Government level rather than by the brewing industry, which will have to react accordingly."

Kenneth Gooding
Industrial Correspondent

AGRICULTURE

THE SURPRISING fact about Britain's agricultural industry in relation to energy consumption is how little it uses.

Britain's biggest industry, which is now producing an annual £6.25bn. of food on its farms and market gardens, consume's only 3 to 4 per cent. of the nation's energy supply. This is about half the quantity of energy consumed in processing, packaging and distributing that food to the shops.

Nevertheless, the steep increases in energy costs have had a severe effect on food production. Before the energy crisis the industry was faced with an annual fuel bill of £75m. a year in round figures. This year the estimate is £175m.

Such an enormous rise in a period of a few years would be hard to bear in any industry. Agriculture and horticulture are particularly vulnerable, however, being comprised of a multitude of small, individual businesses. It also means that the very real efforts that are being made to economise on energy used have produced savings that in national energy use terms are insignificant.

Conversely, this tiny national saving when translated into the economies and savings in costs on thousands of small farms and horticultural enterprises can make a major contribution to the profitability of the business.

The real benefits that can be gleaned by better use of energy may have been the reason why the industry and the associated Government departments and research organisations and ancillary industries reacted swiftly to the energy crisis. Within a couple of years two wide-ranging reports on Britain's use of energy in farming and horticulture have been produced, many useful energy-saving suggestions have alreay been put into practice and a wide range of long-term research projects launched.

In general, growing crops such as grain use energy more efficiently than livestock enterprises and in farming there is a far greater proportion of energy used "on the move" for cultivation and transportation than for static installations. Consequently the savings in energy that can be achieved are often quite small. More dramatic and more measurable economies can be obtained in static situations such as horticulture where the comparatively small U.K. glasshouse industry uses 25 per cent. of all the petroleum fuel used directly in agriculture.

Increases

In 1973, Britain's glasshouses were consuming an annual 120m. gallons of fuel oil, which was then costing the grower on overage 6p a gallon. At present, after two recent price increases, the same fuel is costing between 22p and 29p a gallon.

Such swingeing increases have forced a number of growers out of business in the past two or three years—not surprisingly when the major glasshouse enterprise, tomatoes, takes about 50,000 gallons of fuel to produce an early crop. Economies and a fall in the number of growers have led to an estimated saving of about 10 per cent. in fuel oil use, although hard and fast figures are not obtainable.

To cut fuel costs growers are experimenting with a number of ways to reduce glasshouse heating without causing any setback to their crops. The use of plastic liners to the glasshouses is becoming widespread and the building of artificial windbreaks, or the planting of natural ones, to cut down the chilling effects of predominant winds are also being tried.

Ways of harnessing heat going to waste from industrial premises such as power stations, steel plants, and even from a distillery, to heat glasshouses built nearby are being explored, as well as the use of solar heating panels and wind power. The latter incorporates the use of wind-driven fans which pump oil through smaller and smaller tubes, which is a method of generating heat as opposed to using wind-driven fans to drive small electric generators.

Until these more experimental projects have been fully developed the average grower has been encouraged to ensure that his heating equipment is properly installed and maintained and that pipes and tanks are adequately lagged. Commonsense measures such as these plus the lining of the inside of glasshouses at night to reduce heat loss can result in significant fuel bill reductions.

In agriculture, like horticulture, good management and commonsense have led to some welcome reductions in energy costs. Well-maintained farm tractors and other machines used to their optimum power and well planned use of vehicles for collecting, delivering or just "getting about" are obvious first steps towards cheaper fuel costs.

Other practical steps the farmer can take are the careful selection of crops to ensure that the balance between grassland and arable crops provides the best output for the least cost. Sowing the right mixture of clover in grass because of the natural production of nitrogen by the clover plant can lead to savings of about £20 a hectare at lower levels of grassland production.

However, on the use of fertilisers generally farmers have been advised not to cut down on the amount of nitrogen they put on their crops without great care first. "Because of the nature of the response of arable crops to applications of nitrogenous fertilisers, there is no reason to reduce applications on energy saving grounds. The optimum application from an energy viewpoint will nearly always be similar to that determined by financial analysis," farmers have been advised by a Ministry of Agriculture advisory service and National Farmers' Union joint working party.

Wind, wave, hydro and solar power are all being studied for their possible part in food production in the future while the day-to-day work of designing and developing machinery and equipment properly geared to tackle the maximum amount of farm work at the least cost in energy is being continued by agricultural engineers and manufacturers.

Plant and animal breeders, soil scientists, nutritionists, animal health specialists and the farmers and growers themselves and their advisers are continually working on improving old techniques or introducing new ones to boost farm output through better plants, animals, fertilisers, feeds and management. This is recognised by most people in the industry as the most direct way of increasing output in relation to energy efficiency.

It is not new, however. It is a process which has enabled agriculture to double its output in the past 30 to 40 years—and there is still great scope for further improvement.

Peter Bullen

PAPER

CONTINUED FROM PREVIOUS PAGE

resulted in cheaper maintenance and smaller stocks of spares. Higher energy costs may not make this policy economic any more, however, and the energy saving of installing several motors rated 30 hp, 40 hp and 50 hp matched to their loads may outweigh the convenience of standardising on, say, a 40 hp motor.

Losses in cables supplying power throughout the factory may also be significant, so that high voltage distribution systems and close attention to the load on different cables may yield important savings. To ensure that power is not being wasted, metering of individual machines or different parts of the factory needs to be considered, so that that unexplained increases in consumption can be spotted and investigated as soon as possible.

The rapidly changing prices of different primary fuels has given factories a strong incentive to convert boilers so that they can burn alternative fuels. The changeover from oil to gas, coal, or even waste and wood chippings, can now be accomplished rapidly at the flick of a switch or, in the case of waste burning, automatically.

A photo-electric cell is sometimes installed to "look at" the size of the flame in a boiler which burns a combination of waste wood and oil. When the wood is used up, the magic eye is able to switch back automatically so that the boiler takes only oil.

Savings achieved from switching from one fuel to another at the right moment can be quite high—of the order of 20 to 30 per cent. in some cases.

It is obvious that high pressure steam pipes should be properly lagged and maintained, but sometimes pipes which return the condensate to the boiler are not lagged, and the heat loss may be appreciable. The main water tanks for feed water and condensate are also not lagged in many plants. Sometimes lagging could prevent heat loss during a shut-down period, which would well repay the cost.

Until recently large quantities of hot air have been wasted from paper mills from the exhaust to the drying plant. This air has not been recycled because it contains too much impurity which, by successive recycling, would quickly build up to an unacceptable level.

The use of a regenerator fan in the exhaust duct can, however, transfer a large proportion of the waste heat to the incoming airstream without pollution. The two ducts divide the fan in half, and the revolving blades are heated by the exhaust before transferring their heat to the incoming airstream in the neighbouring duct. By this means it is possible to recover some 80 per cent. of the energy which would otherwise have been lost in the hood exhaust.

The system is claimed to be so effective that calculations in various mills show that the return on investment capital could be as high as 150 per cent. and is unlikely to be below 50 per cent.

Max Wilkinson

INDUSTRIALS—Continued

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's	P/E
May Oct	Horrocks Mills 5p	28	20.9	†2.58	4.8	14.2	2.3
July Oct	Hoskins & H 20p	74	20.8	4.25	2.6	8.8	6.7
May Oct	Howard Tenens	20½	23.8	9.11	—	16.7	—
Jan. July	Hunting Assoc	92	4.11	†2.64	8.4	7.4	4.6
July Nov	Hundleigh 10p	62	43p	†1.92	4.7	4.8	7.9
— —	English Int. $HKL	57	—	—	—	—	—
July —	Hyman (J. & J.)	10	14.6	n†1.16	φ	2.5	φ
Ap.Jy.O.Ja	I.C. Industries	£191½	30.11	n$3.40	—	4.7	—
April Sept	Imp. Cont. Gas £1	368	28.6	†7.98	2.3	3.8	19.7
May Nov	Ingall Inds. 10p	21	4.10	1.57	1.9	11.5	7.0
Jan. Aug	Initial Services	51	4.9	3.88	1.1	11.7	12.1
Aug. Mar	Inter-City 20p	6	15.11	20.8	1.8	‡	4.1
July Dec	Int. Computers £1	175	13.12	5.2	5.8	4.6	4.8
Mar. Oct	James (John)	27	23.8	2.27	1.7	13.0	6.2
June Jan	James (S) 10p	21	29.11	d2.57	1.2	19.8	6.2
Nov. June	Jardine M. $HKE	322	3.3	Q63c	2.3	2.5	17.1
Apr. Dec	Jentique 5p	7¾	4.10	0.53	1.8	10.6	7.9
November	Johnson & B. 12½p	12	11.75	—	—	—	—
Oct. Apr	Johnson Cinos	34½	23.8	†2.32	2.0	10.3	7.4
Feb. Aug	Johnson Mthy £1	334	13.12	†1.08	4.4	5.1	6.2
May Jan	Judge Int.	12	12.75	—	—	—	—
May Dec	Kalamazoo 10p	21	18.10	1.73	1.2	12.7	10.0
June Jan	Kelsey Inds. 12½p	52	13.12	2.9	6.9	8.6	2.6
Apr. Oct	Kennedy Sm. 10p	15	4.9	1.36	1.9	14.5	5.6
Nov. April	Kershaw (A.) 5p	£87½	23.8	14.09	φ	3.2	φ
Dec. Apr	Kleemann	190	20.9	†4.26	6.0	3.5	7.6
Jan. June	Kode Int.	58	15.11	†1.33	2.8	3.5	8.9
Jan. Aug	L.C.P. Hlds.	73	29.11	†3.9	2.0	8.2	9.4
Dec. Aug	L.K. Ind'l. Inva.	19	15.11	d2.14	2.0	18.3	4.3
Apr. Sept	L.R.C. Int. 10p	55½	9.8	g3.40	2.4	9.7	6.5
Nov. Apr	Lamson Inds.	57½	9.8	2.5	2.4	6.7	8.8
May Dec	Lawtex	25	15.11	2.0	0.9	12.3	13.5
July Nov	Lead Inds. 50p	152	20.9	†5.09	4.5	5.2	6.6
Jan. Aug	Leadenhall Sig.	38	29.11	†3.66	2.8	9.7	4.6
Oct. May	Le Bas (Ed.)	54	4.9	†1.48	14.6	4.2	2.7
Dec. June	Lebolt Pobel 10p	31	15.11	†1.48	2.5	7.3	8.3
April	Lebus Harris	43	27.6	2.93	3.2	10.5	3.3
Jan. July	Leigh Ints. 5p	35	29.11	0.89	8.4	3.9	4.7
Jan. Aug	Leisure Cat. 10p	90	13.12	†5.3	1.9	9.1	10.0
Mar. Dec	Lep Group 10p	125	18.10	2.77	7.3	3.4	5.4
Ja.My.Oct	Lesney Prods. 5p	66	18.10	†2.34	6.5	5.5	5.4
Feb. Sept	Letraset 10p	79	9.8	g2.79	4.2	5.5	6.3
— —	Lilley 10p	12½	27.5	—	—	—	—
ly Jan	Light & Leis. 10p	31	1.11	h1.6	3.1	7.9	6.2
Ja.My.S	Lindsay & Wms.	23	6.75	—	—	—	—
ct. Mar	Industries	64	4.1	4.0	6.6	9.8	2.1
ec. June	Lipton (L.)	24	1.6	1.0	2.0	6.4	12.1
ly Feb	Lon. & Nthn. Grp.	28½	4.1	3.25	1.6	17.5	5.4
an. Nov	Long Hmbly. 10p	17	29.11	1.29	3.6	11.6	3.7
pr. Oct	Longton Trans.	35	20.9	3.1	†1.9	13.6	5.8
ug. Apr	Lonsdale Cavnd.	44	14.6	†3.77	1.9	13.2	6.1
ec. June	Low & Bonar 50p	140	1.11	†9.75	2.1	10.7	5.9
an. —	LRC Retrig's 10p.	74	23.8	g12.76	3.7	5.7	8.0
— —	MPI 5p	9½	27.5	—	—	—	—
une Dec	M.Y. Dart. 10p	39	15.11	φ†1.5	4.1	5.9	6.2
ug. July	Macnaic Ind. 10p	14½	29.11	1.61	1.4	17.1	5.7
May Sept	McCrae Fh. 20p	82	23.8	3.52	3.1	6.6	7.5
ct. May	Macfarlane Gp	50	20.9	†3.13	1.7	9.6	9.5
ay Oct	McBride Rbt. 10p	168	20.9	†3.99	5.1	3.7	5.4
ept. Apr	McCleery J/A	18½	26.7	1.84	2.7	15.3	3.7
ug. Mar	Macpherson (D.)	47½	12.7	†2.14	2.8	6.9	8.8
ct. Apr	McRae Tns ds 5p.	19½	9.8	g0.97	2.7	7.7	8.3
ug. Sept	Magnolia Group	53	20.9	†2.19	6.5	6.4	3.7
mar Jan	Magnet Ad. M 10p	59	13.12	5.2	2.3	13.6	4.9
ct. Apr	Man. Ship Can £1	213	23.8	†12.67	3.3	9.2	4.7
an. May	Marks (A.) 10p	39	11.75	†1.35	—	‡	—
eb. Oct	Marling Ind. 10p.	12	29.11	†d0.92	3.3	11.8	3.7
ec. Jun	Marshall Ltr. 'A'	29½	4.10	2.02	3.4	10.6	4.2
an. July	Marshall's Univ.	128	15.11	g6.65	4.0	8.0	3.6
et. May	Martin-Black	80	18.10	14.4	4.6	8.5	4.9
une Nov	Maynards 25p	65	4.10	4.33	2.3	10.3	6.4
ay Dec	Medminster 10p	12½	13.12	20.4	—	—	—
ly Dec	Mentmore 5p	10	13.12	0.83	0.9	12.8	13.0
an. June	Metal Box £1	274	29.11	†12.1	2.6	6.8	8.9
an. June	Metal Closures	70	20.9	†3.43	2.7	7.5	7.6
ec. June	Metalrax	30	1.11	†1.87	3.8	9.6	4.5
pr. Nov	Mills, Mystrs. 50p	156	20.9	6.94	2.8	8.8	6.1
pr. Dec	Mill Cotts. Pr'ty.	37	15.11	2.99	2.2	12.4	4.5
ar. Sept	Minnais Spe 25c	£203xd	15.11	Q5%	†61.1	12.5	—
ay Nov	Mono Containers	15	20.4	†2.0	0.1	‡	—
— —	Monmouth 10p	3½	10.75	—	—	—	—
an. July	Morgan Crucible	97	15.11	†4.72	1.9	8.0	11.2
an. June	Moss (Robt.) 10p.	30	4.1	†h1.66	1.8	8.5	7.4
— —	Moulter 10p	9½	11.74	—	—	—	9.0
pr. Oct	Myson Gp. 10p	72	20.9	3.78	2.7	8.1	5.3
eb. Oct	Nash (J. F.) Secs.	55	9.8	4.63	φ	13.6	φ
ec. June	Nathan (B. & I.)	53	15.11	2.72	1.6	13.5	7.0
an. Aug	Nat. Cylinrg 10p	46	28.6	0.65	1.1	2.2	59.9
ay. Nov	N.C.R. 4% B1986	£85½	28.6	4.9%	φ	19.0	—
October	Negretti & Zambra	38	23.8	2.94	2.4	7.8	4.3
pr. Aug	Neill & Spencer 10p	25	26.7	1.3	—	8.0	9.8
ug. Mar	New Equip. 10p	7½	9.8	0.88	2.1	18.0	4.0
pt. Mar	Newey Group £1	60	5.4	2.0	—	5.1	—
ec. Aug	Norcros	£57½	4.1	3.6	2.5	0.3	18.8
a. Sept	Norton & Wrt. 10p.	44	4.1	†d3.64	2.3	12.7	5.3
ly Oct	Norvic Secs. 10p	16½	20.9	†2.2	0.5	‡	—
t. April	No-Swift 5p	19½	6.9	1.4	1.3	11.1	11.4
n. June	Office & Elect.	65	1.11	g3.65	3.7	8.6	5.3
pt. May	Offrex 20p	66	23.8	†2.88	2.6	6.7	8.7
n. June	Overseas 12½p	30	15.11	Q10c	2.3	24.1	1.8
ec. July	Oxalis	91	29.11	3.3	1.6	9.0	10.9
— —	Do. 6-7% Conv.	£67	13.12	Q6½%	16.5	10.2	—
— —	P.M.A. (Holdings)	27	6.78	—	—	—	—
ril Oct	Parker Shell 'A'	62	4.10	2.89	6.6	12.0	2.9
— —	Patent Int.	1½	8.71	—	—	—	—
b. Aug	Penis & Whites	98	13.12	g3.49	3.9	5.5	8.0
c. July	Peerless 10p	25	15.11	†1.32	4.0	8.1	4.7
ne. Nov	Pentland 10p	7	20.9	†0.38	2.9	8.4	4.6
r. Oct	Penton 10p	46	20.9	13.84	2.4	12.9	4.9
g. Jan	Petrocon 12½p	67	13.12	4.32	q1.9	9.9	8.2
Sept. —	Phillips Patents	7	11.75	B —	—	—	—
y Jan	Photos (Lon)	27	1.11	†2.22	2.6	12.6	4.6
y Dec	Photo-Me 50p	150	18.10	2.27	7.6	2.7	6.3
— Oct	Photopia Int	28	6.9	d1.29	4.6	7.1	4.8
— July	Pickles (Wm) 10p	13	4.10	†0.6	2.3	7.1	9.5
— Nov	Pin A.R/Wr 10p	8	4.10	†0.6	2.3	11.5	5.8
— Aug	Pilkington Br. £1	315	13.12	†9.38	3.5	6.1	9.6
ug. Dec	Pitt Y Bowes Tr.	£50	15.11	Q5½%	5.6	11.6	—
r. April	Plate Glass 10p	45	9.8	3.38	2.7	11.6	5.0
— April	Pleasurama 50p	33½	23.8	1.65	2.8	7.6	7.3
— Nov	Polypack 10p	32½	9.8	†2.44	4.1	11.9	3.8
— July	Portals	180	15.11	†7.0	3.6	6.0	4.0
— Sept	Powell Duff. 50p	129	29.11	†7.09	3.1	8.5	5.8
— Aug	Press (Wm) 5p	29	1.11	†1.5	5.5	8.0	4.4
— April	Prestige Group	113	9.8	4.55	2.8	6.2	8.8
— June	Pritchard Srs. 5p	20½	15.11	g1.33	2.5	10.8	6.3
— Nov	Prov. Lauds. 5p	6	9.74	0.32	1.3	-8.3	14.0
— Oct	Pullman R.J. 5p	58	23.8	†4.88	1.5	13.3	7.5
— Sept	R.F.D. Group 10p	37½xd	17.1	†1.41	6.7	5.8	3.9
— July	RTD Group 20p	13	1.12	Q2.8	2.8	22.4	2.5
— July	Rafinet Bld. 25p	25	4.11	1.62	3.3	9.9	4.7
— April	Randall J.L. 10p.	36	9.9	1.38	1.2	5.0	5.0
— June	Randalls	46	1.11	4.21	2.5	14.1	4.9
— Apr	Rank Organ	178	23.8	7.13	φ2.7	6.3	8.6
— July	Reckitt Col. 50p	340	15.11	†8.64	3.1	3.9	9.6
— Feb	Redfearn Glass	87	13.12	3.95	6.3	7.0	3.5
— May	Reed Exec. 5p	28	1.11	†4.43	0.4	‡	16.1
— Aug	Reed Intl. £1	209	15.11	†13.0	1.2	9.6	15.3
— June	Relyon PBWS	63	6.9	5.0	2.1	12.2	6.1
— Sept	Rennies Cons 50p	67	23.8	†Q17c	2.2	16.4	2.5
— —	Renown Inv.	£3	—	Q15	—	0.3	—
— Oct	Renwick Group	20	8.75	—	—	—	—
— Sept	Restmor	66	6.9	4.33	4.3	10.3	3.5
— Jn.An	Rexmore	39	29.12	d3.6	1.9	14.2	5.7
— Sept	Rich'ds & Staff. 10p	30	23.8	†4.1.5	1.8	7.7	7.6
— May	Rockware	79	18.10	g3.48	4.5	6.8	5.6
— Aug	Ropner Hldgs	27½	13.12	g1.91	4.3	10.7	3.7
— Aug	Do. 'A'	27½	13.12	g1.91	4.3	10.8	2.4
— July	Rotaprint 20p	29	29.11	2.62	1.8	13.9	8.0
— Nov	Rowan & Boden	13½	20.9	†1.07	4.2	12.2	3.0
— May	Royal Worcs	98	20.9	5.2	1.8	8.2	10.0
— Sept	Russell (A.) 10p	40	4.1	†1.82	6.9	7.0	3.1
ly St	Selcon Pts. 10p	£19	2.7	Q12½%	0.8	8.4	14.6
— June	Sale Tilney	115	4.10	†4.32	5.7	5.8	4.6
— Sept	Sangers Grp.	90	13.12	g5.81	2.3	9.9	7.3
— Aug	Scapa Group	73	13.12	g4.35	3.1	9.2	5.3
Ja.A	Schlumberger $1	$47½x	15.12	†Q80c	φ	1.1	φ
— July	Scoterus	43	15.11	†2.64	2.4	9.4	6.2
— June	Scot. Heritable	21	15.11	†1.11	4.2	8.1	4.4
— Oct	Scot. & Un. Ins.	65	13.12	†4.62	1.8	10.9	7.8
— Dec	Sears Hldgs.	38½	17.5	2.1	2.3	8.4	8.0
— Mar	Securicor Gp.	46	23.8	g1.12	6.4	3.8	6.3
— Mar	Do. 'A' N-V	42	23.8	g1.12	6.4	4.1	5.8
— Mar	Security Services	48	23.8	†1.62	3.6	5.7	7.9
— Mar	Do. 'A' N-V	44	23.8	†1.62	3.6	5.7	6.4
— Oct	Shanks Ware 20p	42	4.10	†h1.95	4.8	7.1	4.5
— Sept	Siebe Gorman	145	4.1	†4.55	3.2	4.8	9.3
— June	Silentnight 10p	54	18.10	g3.64	2.3	10.4	7.2
— June	Silhouette 'A' 25p	31	15.11	†2.94	2.9	14.5	10.6
— Nov	Silk'stone 10p	11½	18.10	d1.0	1.9	13.4	6.3
— Nov	Simpson (S.) 'A'	34	1.11	2.8	1.1	12.7	11.2
— July	Sketchley	68	29.11	3.3	1.6	9.0	10.9
— May	Smith & Nph. 10p	42	23.8	†d1.96	2.1	7.2	9.4
— Dec	Smiths Inds. 50p	150	15.11	6.49	2.7	7.7	7.5
— May	Solic. Law 20p	46	4.10	†3.46	1.6	11.6	8.1
— Feb	Sonic	20	13.12	†2.19	2.0	16.8	4.7
— Aug	Spear (J.W.)	183	29.11	g1.52	14.3	2.3	4.7
— Dec	Staffs. Potts	72	20.9	h3.17	2.5	6.8	9.0
— Dec	Do. 9¾% Cnv. Ls.	£125	15.11	7.5	21.1	17.9	—
— Aug	Stalles Int.	40	13.12	†2.9	2.8	11.2	4.7
— May	Stag Furniture	63	18.10	†h3.91	5.0	9.6	3.2
— Apr	Steetley	149	20.9	†5.25	3.3	5.4	8.6
— ary	Stein Rxal. BKI.	77	9.75	Q54c	1.1	5.9	15.6
— Aug	Sterling Ind. 5p	16	28.6	†0.7	1.5	6.9	15.1
— Aug	Stonehill Hldgs.	88	14.6	d8.0	1.7	11.4	5.8
— Nov	Summer (F) 10p.	8	20.9	†0.7	2.9	13.5	5.1
— May	Sunlight Serv. 10p.	17½	4.10	†h3.93	2.5	9.1	5.7
— Aug	Sutcliffe Speak.	29	4.1	h2.01	1.6	11.1	3.1
— —	Swedish Match	£17¾	3.6	Q10%	1.1	4.2	21.8
— ober	Swire Pacific 50c	166	21.9	Q22c	6.1.6	1.8	35.5
— Sept	Sytone	46	26.7	d4.2	1.6	14.0	6.8
— Dec	Talbex 5p	4	11.75	—	—	—	—
— —	Tebbitt 10p	7	5.74	—	—	—	—
— Sept	Thermal Syndi	82	28.6	†6.0	3.4	11.3	9.7
— July	Th. Times Vn. 5p.	5½	29.11	†d0.34	2.3	9.6	7.1
— May	Tilbury T. 20p	71	4.10	g3.49	3.6	7.6	7.0
— Aug	Tootbill R.W.	40	12.7	34.13	5.2	‡	1.9
— y	Toye	16	3.5	0.65	0.4	6.5	1.1
— June	Tozer Kemp. 20p	39	15.11	†2.22	2.3	8.7	7.4
— Oct	Do. 8% Cnv. $1	£82	20.9	Q8%	7.6	10.1	—
— Dec	Trafalgar H. 25p	105	13.12	4.52	2.5	6.8	7.5
— R.D.	Trans Un. US$1	£30½	8.11	Q$1.76	—	0.0	—
— May	Transport Dev.	52	20.9	†h2.59	1.8	7.7	10.9
— July	Transwood Gp. 5p	24	1.76	†0.32	—	—	—
— Jan	Tunnel & New. $1	144	15.11	†8.22	2.8	8.8	7.9
— Sept	Turner Corr. 5p	8	4.1	†0.68	2.5	13.9	4.5
— Aug	UKO Intl.	155	13.12	b8.0	1.8	7.9	10.6
— May	Unicorn Indust's	74	18.10	†4.42	1.5	9.2	10.8
— Aug	Unifilm 15p	32	14.6	2.5	3.8	12.0	3.4
— May	Unilever	444	29.11	g10.18	2.4	3.5	11.4
— May	Un'n K.V.F. 12	£23½	19.11	Q8%	1.8	4.9	11.3
— June	Utd. Carriers 10p	38	15.11	†1.88	4.7	7.6	4.3
— Sept	United Gas Inds.	92½	23.12	†2.03	2.7	9.6	4.9
— Jan	U. Guarantee 5p.	7	4.75	—	—	—	—
— June	U. Industrial 10p	5½	8.3	20.16	—	5.0	17.1
— Apr	Unochrome	10	18.10	39.4	4.6	6.2	4.6
— July	Valor	20	13.12	1.77	1.5	13.6	6.3
— —	Venesta	21½	12.75	—	—	—	—
— Jan	Viners 10p	26	29.11	†2.11	3.3	12.5	4.7
— Aug	Vinten Grp. 20p	36	26.7	†2.0	4.2	8.7	4.3
— Dec	W Ribbons 10p	38	15.11	2.01	5.4	8.1	3.5
— Dec	Wade Potts. 10p	22	13.12	†1.16	3.5	8.1	5.6
— May	Walker Hmr. 5p	14	1.11	d1.3	2.3	14.3	4.6
— May	Warren (Jas.) £1	54	4.75	—	—	—	—
— Nov	Waterford 5p	31	4.10	†d1.12	4.0	3.6	7.9
— Oct	Watson's	125	9.8	3.25	2.5	4.0	15.2
— Aug	Watson B.K. 10p	35	13.12	g2.12	3.5	9.3	5.2
— Dec	Wedgwood	192	29.11	g6.06	3.9	4.9	9.8
— Aug	Wellico Hldgs. 5p.	10½	29.11	†0.41	φ	6.0	φ
— Sept	Westn. Board 10p	38	26.7	†d3.0	1.7	12.1	7.3
— —	Westin. & Cy P	14½	7.74	—	—	—	—
— Nov	Wick M.H.K. $1	46½xd	17.1	Q10c	1.9	2.7	19.4
— Oct	Wratten & Angel	222	4.10	†3.63	6.3	2.5	9.4
— May	Whiley (C.M.)	15	4.75	—	—	—	—
— Apr	White Chd & B.	51	9.8	h2.66	1.7	8.0	10.2
— Aug	Whitecroft 50p	133	13.12	†7.0	4.3	8.1	5.8
— July	Whiteley R.S. & W.	23	11.75	0.5	—	3.9	—
— May	Wilger (J.)	35	29.4	3.65	1.3	15.2	7.5
— Oct	Wilkins Mitchell	24	4.1	Z20.1	—	—	0.6
— Sept	Wilk'ns M'tch £1	147	26.7	†7.49	1.9	8.0	8.2
— Dec	Do. 10pc Cnv.	£83	15.11	Q10%	9.7	12.5	—
— Feb	Williams (J.)	25	13.12	1.97	3.6	12.1	3.5
— June	Wills (George)	27	29.11	†1.26	1.9	7.8	10.5
— Dec	Wilson Walton 10p	48	18.10	h3.18	2.1	10.2	7.1
— Nov	Wine Inds. 20p	27	4.10	†2.27	2.0	13.5	5.7
— Oct	Witter (Thomas)	35	23.8	†2.56	2.2	13.2	6.1
— May	Wolstenholme	113	4.10	g7.06	2.1	9.9	8.1
— e	Wood & Sons 5p	11½	1.11	0.54	4.2	7.2	5.1
— y	Wood (Arthur) 5p	19½	20.4	0.73	4.2	8.3	4.9
— ober	Wood Hall	74	15.11	4.35	1.9	9.0	8.1
— ber	Zetters 5p	24	4.10	1.04	3.6	6.7	7.6

INSURANCE

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's	P/E
Jan. June	Bowring (C.T.)	71	4.10	t2.64	3.5	5.7	8.5
Feb. July	Eagle Star 50p	44	4.1	1.14	3.3	4.0	11.6
May Sept	Britannic 5p	124	25.8	7.47	—	9.3	—
F.M.S.D.	Combined Am. $1	£12¼	28.10	Q80c	—	4.1	—
Nov. May	Cont. Union	118	4.10	6.84	—	8.9	—
Jan. July	Eagle Star	114	29.11	g5.49	—	7.4	—
June Oct	Emis UK 8%Cv.	£104	15.11	Q9%	—	18.6	—
May —	Equity & Law 5p	122	27.5	5.44	—	6.9	—
Jan. July	Gen. Accident	172	1.11	†7.25	—	6.5	—
Jan. May	Guardian Royal	194	1.11	†8.27	—	6.6	—
Jan. July	Hambro Life	215	15.11	b13.75	—	9.8	—
Jan. July	Heath (C.E.) 20p	425	29.11	d13.0	3.1	4.7	18.8
Oct. Mar	Hogg Robinson	132xd	17.1	5.52	4.1	6.4	9.8
Nov. Apr	Howden (A.) 10p.	131	6.9	15.0	5.8	5.9	8.9
Dec. June	Legal & Gen. 5p	123	18.10	†4.65	—	5.8	—
Sept. June	Lex. & Gdwn. 10p	103	23.8	3.69	2.5	5.6	11.1
Nov. May	Lon. & Man. 5p	104	1.11	†4.64	—	6.9	—
Jan. July	London United 5p	63	6.9	†3.76	1.8	9.2	10.2
Nov. July	Matthew W. 20p	194	4.10	†8.04	2.5	6.4	9.7
Nov. June	Minet Hldgs. 20p.	135	1.11	b3.73	3.2	4.2	18.9
July —	Royan (Chas) 20p	62	—	h3.25	1.7	8.1	11.1
Oct. June	Pearl 5p	204	6.9	†10.24	—	7.7	—
Dec. June	Phoenix	212	15.11	†8.42	—	6.3	—
Jan. July	Provident 'A'	105	15.11	†6.65	—	9.7	—
Jan. May	Do. 'B'	105	15.11	†6.65	—	9.7	—
Nov. May	Prudential 5p	126	4.10	†5.41	—	6.6	—
Nov. May	Refuge 5p	104	4.10	6.83	—	10.1	—
Dec. May	Royal	322	15.11	†13.39	—	6.4	—
Feb. Oct	Selg Forbes 10p.	236	23.8	†8.59	1.7	5.6	17.2
Oct. Apr	Stenhouse	90	9.8	3.43	φ	3.6	φ
Jan. July	Sun Alliance £1	413	15.11	†16.4	—	6.1	—
June Dec	Sun Life 5p	72	1.11	2.79	—	6.6	—
April —	Talisto Mar. EDR	950	25.3	Q11%	—	0.9	—
Nov. May	Trade Indemnity	115	4.10	†6.83	—	9.1	—
Ma.Ja.Se.De.	Travelers $2.50	£26⅞	29.10	Q$1.08	—	2.5	—
Dec. June	Willis Faber	206	29.11	b7.0	2.4	5.2	12.2

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's	P/E
— —	Brit. Leyland 50p	26	—	—	—	—	—
Ma.Je.S.D.	Gen. Mtr. Units	300	5.11	Q25½c	φ	5.3	φ
Jan. July	Lotus Car 10p	17	†75	—	—	—	—
August	Reliant Mtr. 5p	6¾	†75	—	—	—	—
Sept. May	Rolls-Royce Mtr.	62½	20.9	†3.5	2.1	8.6	8.5
May —	Volvo Kr50	£17	18.5	Q12%	1.4	5.2	13.7

Commercial Vehicles

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's	P/E
Nov. June	Crane Fruehf. 10p	28	4.10	†h2.15	2.0	11.8	6.4
Feb. Aug	E.R.F. (Hldgs.)	46	17.1	21.5	—	5.2	—
August	Fodens 50p	24	26.7	0.65	—	4.2	—
June Dec	Peak Invests. 10p	8½	29.11	0.65	1.9	11.8	(5.6)
May Jan	Pleasney	89	15.12	d6.49	2.2	11.2	6.2
July Oct	York Trailer 10p.	29	9.8	†1.74	1.0	9.3	17.8

Components

Dividends Paid	Stock	Price	Last xd	Div Net	Cvr	Y'ld Gr's	P/E
June Jan.	Abbey Panels	32	14.6	d2.6	3.6	12.5	3.4
Feb. July	Airflow Stream	42½	15.11	†d4.0	1.1	14.5	9.5
May Nov.	Armst'ng Eq. 10p	46½	20.9	†1.82	5.0	6.0	9.0
July Jan.	Assoc. Eng'g	91	4.1	4.02	3.4	6.8	7.0
June —	Automotive	56½	17.5	1.66	5.7	4.6	6.2
Aug. Mar.	Bloomsd Bros.	34	4.1	3.34	φ	†5.1	φ
Oct. June	Brown Bros. 10p.	13¾	20.9	0.6	2.7	7.0	8.3
Oct. May	Clayton Dewandre	79	23.8	†5.72	1.8	11.1	7.6
Apr. Sept	Dowty 50p	104	23.8	†3.61	3.0	3.5	9.7
Jan. July	Dunlop 50p	84	15.11	†3.57	5.1	6.5	9.6
Jan. June	Flight Refueling	36	13.12	†2.32	2.6	10.2	5.8
Jan. June	Hum. Smith 10p.	9½	15.11	0.43	6.0	7.0	4.6
Sept. —	Hoechin	73	6.9	3.25	6.2	6.8	3.6
Mar. Sept	Kwik-Fit Hldgs.	49	29.11	g1.25	3.9	3.9	8.6
May Dec	Laces Inds. £1	225	15.11	7.36	4.5	5.0	6.4
Sept. Apr	Stocksis Robert	120	9.8	†6.23	4.0	8.0	4.8
Jan. July	Supra Group 10p.	20	4.10	h0.76	3.1	5.9	8.5
Feb. July	Turner Mfg.	59xd	17.1	2.18	1.0	7.0	22.6
Mar. July	Wilmot Breeden

FINANCIAL TIMES
Monday January 24 1977

Drax breakdown, but £100m. order likely to go ahead

BY MAX WILKINSON, INDUSTRIAL STAFF

THE CENTRAL Electricity Generating Board has set up an inquiry into the breakdown of one of Britain's most advanced coal-fired stations, at Drax, near Selby, Yorkshire.

The breakdown, which will cost more than £5m., is not expected to prevent the Board ordering a second stage for Drax, to almost the same design, at a cost of £100m.

The Board's engineers believe they have located the fault and that it can be avoided in future. A report of their inquiry is expected in the next few weeks.

Rationalising

The breakdown of two of the three 660 MW generator units, the largest in service, provides a sombre background to important talks to-day on how the power engineering industry must be rationalised to face foreign competition.

The talks are between Mr. Eric Varley, Industry Secretary, and heads of the four major companies involved—GEC, C. A. Parsons, Babcock and Wilcox, and Clarke Chapman. They will discuss mergers which the Government believes essential before the next stage of Drax can be ordered.

There are two main possibilities on the table:—

1—To set up a consortium like the Nuclear Power Company with the size and finance needed to compete for large turnkey contracts overseas.

The Nuclear Power Company is dominated by GEC, which has the largest financial reserves and whose management is generally regarded as highly efficient.

However, there is strong opposition from trade unions and from the other companies to an organisation too much dominated by GEC.

2—A joint company, with the National Enterprise Board, as a major shareholder, keeping the balance between the commercial interests. This alternative is favoured by the unions.

One possibility is for two linked companies, with NEB shareholding, for the turbine generator and boilermaking interests.

This alternative is now gaining favour with top managements and with the Government, but the attitude of Sir Arnold Weinstock, head of GEC, will be crucial if a rapid solution is to be reached.

An NEB company would give the Government a stake in the industry while at the same time damping objections from the unions, who are deeply suspicious of a merger which could lead to a run-down of jobs.

The talks follow the recommendations of the Central Policy Review Staff (the "Think Tank") which urged: 1, ordering Drax second stage before it is needed, to provide much-needed work in the industry; 2, ordering a prototype 1200 MW turbine generator; 3, mergers; 4, better help for exporters; 5, a steady forward-ordering plan by the CEGB.

Difficulties

The latest breakdown will have hardly any effect on arguments about forward ordering for Drax, which depend mainly on cost and on the likely future demand for electricity.

What the failure does is to cast new doubts on the wisdom of developing a 1200 MW turbine which will present even more technical difficulties than the present 660 MW sets.

Until November 26, 1976, the three 660 MW units at Drax were considered a remarkable success. The first of their type in service, they had run for 15,000 hours over nearly three years without major trouble and at full output.

The recent failure was caused by the shifting of lumps of iron put into the rotor to improve its magnetism. Movement of this metal caused cracks in the 90-ton shaft, which will now have to be replaced completely.

Dr. Robert Hawley, managing director of C. A. Parsons, said last night it was inevitable in a high-technology industry that sets would occasionally be forced out of service for repair.

In the past ten years 40 to 45 cracks had been discovered in turbine generators throughout the world. Sets by all major manufacturers were involved. This particular trouble could be prevented in other Parsons machines by easy modification.

Drax provides about 1 per cent. of Britain's electricity. Despite the breakdown there has been no interruption of supply.

Overdraft rate may fall by ½%

BY MICHAEL BLANDEN

THE BIG clearing banks are expected to reduce the cost of their overdrafts early this week following the further sharp fall in the official minimum lending rate on Friday.

The extent of the cut in bank loan rates will depend partly on the level at which interest rates in the short-term money markets settle down. The banks may consider a reduction of one-half per cent. in their base rates, which at present stand at 14 per cent.

That would bring the cost of overdrafts to the top quality blue-chip company customer down to 14½ per cent., with other borrowers paying up to 18 per cent.

The Bank of England's minimum lending rate has now come down to 13¼ per cent. from the peak 15 per cent. set as part of the emergency measures introduced by the Government last October. Last week's fall of ¼ per cent. indicated marked acceleration of the downward trend.

Bankers, however, continue to take a cautious line. They point out that the general level of market rates has so far tended to be kept relatively high by continuing shortage of funds in the market.

Gilt sales

The shortage has reflected the amount of money absorbed by very heavy official sales of gilt-edged securities and by flows of tax to the Exchequer.

The banks are anxious to bring rates down in order to help customers but feel in no position to encourage a substantial increase in their lending. They need to keep their growth under strict control to stay within the close limits imposed by the so-called corset controls introduced in November to help control the money supply.

Under these controls the banks risk heavy penalties if the increase in their interest-bearing resources exceeds 3 per cent. over the six-month period measured by the average of their figures in February, March and April.

Banks are uncertain over the impact of their lending of the current tax-gathering season. So far it appears that corporation tax payments have made little impact on bank lending.

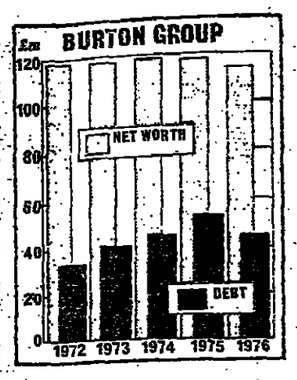
These payments are no longer very substantial because of the various reliefs now provided, and there is evidence that companies have been able to meet them out of existing funds, including some borrowing last year in anticipation of a renewed squeeze on credit.

However, there are also VAT payments falling due, as well as the impact of the year-end charges and interest payments which will be reflected in the banking figures for last week's mid-January make-up day.

THE LEX COLUMN

Industry and the institutions

Last Tuesday this column discussed the increasing volatility which has affected the stock market in line with the growing dominance of big institutional investors. In the light of statistics presented in a new book by Mr. S. J. Prais* the impact of the institutions can be further followed into the industrial economy at large.



Adding together insurance companies, pension funds and investment and unit trusts it is estimated that, adjusted for inflation, the total investments of financial institutions rose by a factor of 3.5 between 1952 and 1972. During the 1950s the institutions began to move heavily into the equity market, so that the proportion in their hands of all quoted U.K. Ordinary shares rose from 18 per cent. in 1957 to just over 40 per cent. in 1973.

So there has already been a major transformation of the ownership of industrial shares in this country, and the process continues. According to Mr. Prais the institutions could easily hold two-thirds of all U.K. equities by 1984. The consequences for financing, management and concentration can be expected to show themselves even more clearly in the coming decade.

The preference of big funds for big companies to invest in is of great importance here. Flotations of small companies have almost ceased (such new listings as have taken place over the past year have mostly involved institutional grade shares) and new financial bodies are arising — while the banks are also changing their approach. Among quoted companies there has been — at least until very recently — a wave of concentration. The share of the 100 largest companies in U.K. manufacturing net output, fluctuating around 20 per cent. for most of the first half of the century, shot up from that level to 40 per cent. between 1950 and 1970, a period which coincided with the rise of the institutions.

But the much more serious question now looming up is that of financial power. The institutions are very reluctant to exert an ownership function so that, by default, influence has passed largely into the hands of professional managers. But if the institutions do, within a few years, hold two-thirds of the shares in British industry but still try to act as absentee landlords, the power vacuum will be filled some other way. That is why the Bullock Committee feels able to suggest taking away a large part of shareholders' sovereignty, and why the Left-wing of the Labour Party is seeking, directly, to take over the big funds themselves. Radical ways in which the City might meet this crisis of control will be discussed here shortly.

* *The Evolution of Giant Firms in Britain, by S. J. Prais. Cambridge University Press, £8.50.*

Burton

Three years ago, the Burton Group's annual report was illustrated with pictures of 12 separate retail operations: today, following the closure or disposal of the likes of Orange Hand, Greens, and Browns of Chester, the illustrations are down to 7. Over the period the number of employees has fallen by about a fifth, and roughly a tenth of the retail outlets have gone. Even in money terms, shareholders' funds have declined by several percentage points.

Moreover, although the latest accounts show a £9.4m. fall in total borrowings to £45.2m., this is the result of retrenchment rather than of any fundamental change in the trading environment. Disposals of fixed assets brought in £13.3m. during the year. And new arrangements with Lloyds and Scottish for funding the menswear credit business have taken something like £5m. of debtors off the balance sheet.

The short term picture has also been flattered by the decision to service out of future annual contributions a deficiency of around £4m. which has shown up in one of Burton's pension funds, as well as by further sale and leaseback deals. Over the past three years the group has disclosed aggregate pre-tax profits of £4.5m.—after crediting £5.2m. of sale and leaseback surpluses.

However this policy has apparently now been changed so that the group will be hanging on to its prime freeholds from now on. And with net assets still as high as £115.8m. the balance-sheet is by no means overgeared — provided that those assets are going to start producing some kind of regular return.

The news on this score is that sales growth (adjusted for last year's disposals) has picked up from 5 per cent. after 15 weeks to 8.6 per cent. after 19. Businesses which in 1973-74 made losses of £2.4m. have now been brought into profit, sold or closed. This suggests that the group as a whole could well have moved back to around the breakeven position, but the market capitalisation of £18m. and a 7.7 per cent. yield at 25p plainly have to look further ahead than 1976-77.

CompAir

CompAir's report does not include a geographic breakdown of profits, apparently because this would be giving too much away to its giant U.S. rivals. What it does show that around 73 per cent. of turnover is accounted for by overseas sales and that the overseas tax charge, for the first time, is greater than the U.K. levy. It also announces that the group is aiming for "substantial change" in the sources of its overseas profits.

This means that it wants to get bigger in Europe, and also in the U.S., where its current business is roughly the same size as its operations in Australasia and in Africa with profits of £1m. plus. CompAir has established the basis for expansion on the Continent, where it has been building up distribution networks in recent years. In the U.S., however, it is thinking of another acquisition or some other form of association as the best way of securing distribution. And before it can do that, it will probably need to restructure its medium-term short-term foreign currency borrowings, which currently make up about an eighth of capital employed.

Meanwhile the trading background is healthy. Profits up by two-fifths in the second half of last year and despite the patch of weakness in the U.K. business is still flowing well.

GEC may buy Meriden stocks

By Terry Dodsworth, Motor Industry Correspondent

SIR ARNOLD WEINSTOCK, managing director of GEC, is believed to have offered to buy a substantial proportion of the Meriden motor-cycle stocks as an interim measure to tide the motor-cycle co-operative over its immediate cash crisis.

The co-operative, now talking to the Government and Sir Arnold about ways of rescuing it from its financial difficulties, has built up stocks of about 1,000 vehicles.

Under the plan being considered by the Government GEC would also help Meriden by supplying sales know-how and management to the sales company which the co-operative aims to take over from NVT.

The intensive round of talks between Mr. Harold Lever, the Prime Minister's economic adviser, who is charged with examination of the Meriden situation, the Department of Industry and GEC, will resume again to-day.

It is expected that the rescue plan will go to the Cabinet or to senior Ministers for approval because of the strong line against further assistance for the motor-cycle industry previously adopted by Mr. Eric Varley, the Industry Secretary.

The plan involves handing over £500,000 more Government money to Meriden to buy the marketing rights for its vehicles from NVT. But the Government would then be reimbursed to the same amount by NVT in return for a diminution in its share stake in the company.

Mr. Smith warned against deal with black moderates

BY OUR OWN CORRESPONDENT

SALISBURY, Jan. 23.

MR. IVOR RICHARD to-night ruled out British recognition of any settlement reached between the Rhodesian Government and African political groups in Rhodesia outside the Geneva Conference. He also made it clear that a British resident Commissioner heading an interim government would have to be backed by the present Rhodesian military forces.

Mr. Richard, the British chairman of the adjourned Geneva Conference, was speaking in a Rhodesian television interview.

He said the Commissioner would chair a national security council and have the power of veto and be backed by "the armed forces of this country." He described as "shocking" any suggestion that the white-led Rhodesian army would not switch its allegiance to an interim government.

Under the British proposals being considered by Mr. Smith this week-end, the new administration would consist of a security council and an African Council of Ministers, also chaired by the Commissioner.

Mr. Richard skirted round the thorny question of integration of nationalist guerillas with existing government forces. That, said Mr. Richard, was "another issue."

He pointed out that a settlement was conditional on the war ending and last week he had received specific assurance from Tanzania's President Nyerere, chairman of the African "front-line" States, that the guerilla campaign would cease.

There has been speculation in Salisbury that should the Geneva Conference fail, the Rhodesian Government will press ahead with implementation of the Kissinger proposals and open negotiations with the Zimbabwe United Peoples Organisation led by two tribal chiefs, and perhaps Bishop Muzorewa's African National Council.

Transition

Dealing with the possibility of such an "internal settlement" Mr. Richard said that it would be "very difficult to have a free election at the moment when at least two of the possible candidates are not allowed into the country."

Earlier in the week-end, Mr. Smith and his Cabinet met to discuss Mr. Richard's latest proposals for U.K. participation in a transition government.

Mr. Smith is expected to make a national broadcast this evening outlining plans for repeal of most of the country's racial legislation which observers see as an attempt by him to draw moderate black leaders into separate political talks.

Meanwhile a Rhodesian Government spokesman has denied nationalist allegations that "agents of the Rhodesian racialists and fascists" were responsible for the parcel bomb explosion in Lusaka on Sunday which killed Mr. Jason Moyo.

Mr. Moyo was a senior official in the Zimbabwe African People's Union led by Mr. Nkomo.

The Rhodesians said similar allegations had been made when Mr. Herbert Chitepo, Chairman of Zanu, was killed in March 1975 when his car was blown up outside his Lusaka home.

"This was later found to be the work of Zanu nationalists," the Rhodesians said, adding that several men detained in connection with Mr. Chitepo's death were released by the Zambian authorities to allow them to take part in the Geneva Conference, and were now at large outside the country.

Continued from Page 1

Bullock

on Wednesday that it wants maximum consultation first. But it is expected to indicate that the consultation must be on the details of the majority Bullock Report, not on issues of principle.

One trade union which has been a critic of the TUC's single minded approach on worker-directors intends to call for wider legislation, while probably not opposing the Bullock Report in principle.

It is the General and Municipal Workers' Union, whose general secretary, Mr. David Basnett said yesterday: "The GMWU is totally committed to the extension of industrial democracy through legislation.

"We reject entirely those management elements who argue against any legislation on this subject."

● Mr. Clive Jenkins, general secretary of the Association of Scientific, Technical and Managerial Staffs, and a member of the Bullock committee said on BBC Radio, "If you were to look at the Boards of great British companies, you would find many directors who are there either by accident of birth or the club they belong to.

"Many of the Boards of our great companies are staffed by people who haven't done a good enough job and who don't have as much right to sit on these Boards as people who have contributed their professional skill, their craftsmanship and their clerical capacities."

● Mr. James Prior, Tory Employment spokesman said a sensible and flexible approach to greater participation could be of enormous value. But it was equally clear that a report which concentrated on the statutory imposition of worker-directors "would raise fears and anger in industry which would set back the growth of meaningful participation and lead to a situation in which no law could work effectively."

Youth killed as Madrid police battle with demonstrators

BY ROGER MATTHEWS

MADRID, Jan. 23.

A YOUTH was shot and killed in the centre of Madrid to-day during two hours of running battles between riot police and demonstrators calling for the release of all political prisoners.

Police fired dozens of smoke grenades and tear gas canisters to try to disperse the demonstrators, some of whom replied with stones and tried to drag cars across the streets. A pall of smoke hung over central streets.

A statement from the civil governor of Madrid said two middle-aged men were thought to have been responsible for the killing and police had identified the group to which they belonged.

Eye-witnesses reported seeing members of the extreme Right-wing faction, Guerillas of Christ the King, lashing out at demonstrators.

The civil governor said several police had been injured by fire bombs or stones, together with an unknown number of demonstrators.

He estimated that at least 8,000 people had taken part in the protest, which had been banned by the authorities.

Violence spread over a wide area of the city centre and passers-by were hit indiscriminately in the repeated police charges. The demonstration had been called by a number of Left-wing organisations in support of the campaign for a total political amnesty for the estimated 170 prisoners remaining.

Ambassadors

The murder of the youth is certain to provoke further protests and demands for the authorities to act decisively against the extreme Right.

More than 40 people have been killed as a result of political violence since the death of General Franco at the end of 1975 and extremism continues to be one of the main threats to the Government's programme of gradual liberalisation.

To-day's violence came against the background of rising political hopes. Sr. Adolfo Suarez, the Prime Minister, is due to have another round of talks with opposition leaders to-morrow, while foreign policy initiatives led to the announcement on Friday night that full diplomatic relations were being established with Romania.

Ambassadors are expected to be exchanged with other East European countries later this year, although a number of difficulties with the Soviet Union still have to be overcome.

Meanwhile in the Basque town of Bilbao, troops and drivers from the paramilitary Guardia Civil have been brought in to drive municipal buses which have been off the road as a result of strike action.

Teng may be recalled to hold high Chinese Party post

BY A SPECIAL CORRESPONDENT

PEKING, Jan. 23.

MR. TENG HSIAO PING, the former deputy chairman of the Chinese Communist Party who was stripped of his party and army posts last year, has been reinstated, according to reports in Peking.

Diplomats and journalists learnt of his recall to power in talks with officials, although Teng's reported rehabilitation has not been officially announced.

Workers in the capital appear to have been told officially only a few days ago that Teng is to be appointed First Vice-Chairman of the Party, the position held by Wang Hung Wen until his disgrace as a member of the anti-party "Gang of Four" in early October.

Middle-level officials were apparently aware of the likely reinstatement of Teng as a Party vice-chairman even before the pro-Teng poster campaign first erupted in the heart of the capital two weeks ago.

Teng was a Party vice-chairman as well as senior vice-premier and acting chief of staff of the Chinese armed forces until he was stripped of all his posts in April following rioting in Tien An Men square. However, he was never deprived of his Party membership.

If Teng resurfaces as First Party vice-chairman he will be second only to chairman Hua Kuo Feng in the all-powerful Party hierarchy.

The ranks of Party vice-chairman have been decimated by death and disgrace. Without Chou En-Lai, the former Prime Minister who died last year, former security chief Kang Sheng, who died in 1975, and Wang Hung Wen, there remained only Defence Minister Yeh Chien Ying and Li Teh Sheng, commander of the Shenyang military garrison in China's North East. Li was under a cloud during the ascendancy of the "gang of four," led by Chiang Ching, chairman Mao's widow.

As a former secretary general of the Chinese Communist Party, a position he was first appointed to twenty years ago, Teng could be returning to the job he knows well—party organisation.

Sunday Morning Herald

Weather

U.K. TO-DAY

SOME RAIN at first in the South-East, but otherwise mostly dry with bright intervals after night fog.

London and Southern England
Rain at first followed by bright intervals. Max. 8C (46F).

E. Anglia, E. Midlands, Northern England, N.E. England, Borders.
Mostly dry with frost in some places and night fog clearing slowly. Max. 6C (43F).

W. Midlands, N. Wales, N.W. England, Lakes, Isle of Man, S.W. Scotland, N. Ireland
Bright intervals and scattered showers becoming cloudy.

Channel Isles S.W. England, S. Wales
Bright intervals and scattered showers becoming cloudy.

Highlands, N.W. Scotland, Orkney, Shetland
Bright intervals and showers, becoming cloudy. Max. 6C (43F).

Lighting-up: London 17.06, Manchester 17.08, Glasgow 17.05, Belfast 17.17.

BUSINESS CENTRES

		Y'day mid-day °C	°F			Y'day mid-day °C	°F
Amstrdm.	R	8	46	Madrid	C	6	43
Athens	C	13	55	Manchstr.	C	7	45
Barcelona	F	12	54	Melbourne	C	18	64
Beirut	S	14	57	Mexico C.	S	30	86
Belfast	F	7	45	Milan	Dr	1	34
Belgrade	S	9	48	Montreal	S	7	45
Berlin	C	2	36	Moscow	S	—18	0
Bmghm.	Fg	6	43	Munich	F	4	39
Bristol	C	7	45	Newcastle	C	5	41
Brussels	C	9	48	New York	S	—4	25
Budapest	C	2	36	Oslo	F	—6	21
B. Aires	C	28	82	Paris	C	10	50
Cairo	S	20	68	Perth	S	31	88
Cardiff	Fg	7	45	Prague	C	—1	30
Cologne	C	10	50	Reykjavik	C	5	41
Copnhagn.	C	2	36	Rio de J'o	S	32	90
Dublin	S	9	48	Rome	C	11	52
Edinb'rgh	C	3	37	Singapore	C	30	86
Frankfurt	C	8	46	Stockholm	C	—1	30
Geneva	C	5	41	Strasb'rg	F	11	52
Glasgow	C	5	41	Sydney	R	21	70
Helsinki	Sn	—12	10	Tel Aviv	S	15	59
Hg. Kong	S	16	61	Tokyo	Sn	0	32
Jo'burg	C	27	81	Toronto	C	—10	14
Lisbon	R	13	55	Vienna	C	0	32
London	C	8	46	Warsaw	C	—2	28
Luxemb'g	R	5	41	Zurich	C	2	36

HOLIDAY RESORTS

		°C	°F			°C	°F
Ajaccio	F	15	59	Istanbul	F	11	52
Algiers	C	15	59	Jersey	C	9	48
Biarritz	S	15	59	Las Plms.	S	21	70
Blackpl.	Dr	6	43	Majorca	C	11	52
Bordeaux	S	13	55	Malaga	C	12	54
Cape Tn.	C	20	68	Malta	F	19	66
Corfu	C	14	57	Nairobi	S	25	77
Dubrovnik	C	12	53	Naples	F	13	55
Faro	F	16	61	Nice	C	11	52
Florence	F	13	55	Rhodes	C	14	57
Gibraltar	F	15	59	Tangier	C	19	67
Guernsey	C	9	48	Tenerife	S	15	59
Innsbruck	F	3	37	Tunis	F	17	63
Inverness	F	8	46	Venice	C	9	48
I. of Man	C	8	46				

S—Sunny. F—Fair. C—Cloudy. R—Rain. Dr—Drizzle. Fg—Fog. Sn—Snow.

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